

THE  
CRITICAL REVIEW.

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For JANUARY, 1788.

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*Cyclopædia: or, an Universal Dictionary of Arts and Sciences.*  
By E. Chambers, F. R. S. Continued from vol. lxiv. p. 89.

WHEN we compared human knowlege to a vast tree, and spoke of the various subdivisions of sciences as its branches, whose bulk and importance differed as much as the number and magnitude of their ramifications, it was not a metaphor taken up by chance, or pursued without design. In this edition of the Cyclopædia the image is almost realized, by a new and valuable improvement, we mean an Index, where, under each science, the terms which belong, and, of course, the articles which refer to it, are arranged in alphabetical order. An addition of this kind gives a body and a consistency to the scattered limbs of which a Dictionary must necessarily consist: this Index unites the whole, and restores not only order, but the advantages which must arise from connected views. It is the guide which we referred to, in our Number for August last, with whose assistance we passed from the larger branch, to those lesser ramifications, which depend on it. We shall again take this faithful assistant, and give a comprehensive account of the other improvements and additions, for which we are indebted to Dr. Rees. Yet we ought not to leave it, without saying, that it seems to have been collected with care, and that the subjects are judiciously arranged.

In Botany many of the articles appear to be new, particularly those which relate to the different plants. The systems of Linnæus and Tournefort are explained with much precision, and illustrated by plates. The account of the tea tree, with the method of gathering and curing the leaves, is, in part new, and generally curious. Dr. Rees does not mention a suspicion, which has lately prevailed, that the different flavours are supposed to be owing to the mixture of leaves of different plants: that of Hyson is said to arise from the leaves of a species of olea; and, if tea be carefully examined, some leaves will be found of a less size, and a different shape, from those of the tea shrub.

In Chemistry the editor has done much ; but he could only seize the science in the form it assumed, at the moment of his writing. Various improvements have since lessened the value of some of his articles. The table of elective attractions is imperfect : that of Bergman was first published in 1775, though we believe it was not commonly known in England till the year 1781. Perhaps Bergman's table was unknown to our editor when the article was completed.—Many new articles occur in this branch, as CALCINATION, DISTILLATION, *Woulf's Apparatus*, FURNACES. Chemical History of GOLD and PLATINA, &c. Many articles appear to be much enlarged : that on NITRE is very valuable, and contains the rudiments of all the modern methods of producing this salt. The articles of SULPHUR, VINEGAR, VITRIOL, and ZINC, seem, on comparison, to be in a great measure new.

In CHRONOLOGY we perceive many original articles, and, almost in every one, some additions and elucidations : the same may be observed of COINS: the table seems to be entirely new.

The subject of COMMERCE has not been so advantageously treated in any General Dictionary. The improved parts may be seen under the heads of BALLANCE *of Trade*, BANKER, BROKER, COMPANY, INSURANCE, NAVIGATION *AA*, and POST. The histories of WOOL, SUGAR, and TOBACCO, seem to be wholly new.

Electricity might afford much room to enlarge, if our limits would admit of mentioning every alteration ; but we have already been obliged to step over several sciences, which we shall enumerate at the end. We already perceive that we cannot be diffuse, except on what is generally new, or particularly interesting. On the science before us many improvements occur ; and if we do not mention the particular ones, it is because we find them in every article. The facts are ascertained with accuracy, and related with precision. We believe that for all the scientific part of this subject, the introduction and explication of the terms that occur in this science, and the arrangement of the matter furnished by modern discoveries, we are indebted to the present editor.

We must make the same acknowledgments for what occurs under the head of Ethics. The subject of morals, since the time of Chambers, has been discussed with greater accuracy than in the period preceding him ; and the editor has freely used the labours of the best writers, to which he has added many observations that appear to be peculiarly his own. We would particularly mention the following articles, as, in our opinion excellent : APPROBATION, BENEVOLENCE *universal*



*versal.* DEFORMITY, EDUCATION, EMULATION, EVIL, GOOD *moral*, LIBERTY *moral*, PASSION, SENSE, VIRTUE, &c.

The subject of Fluxions, and all higher branches of the mathematics, are treated of with much clearness and precision. The invention of fluxions is attributed to sir Isaac Newton, and his claim is pretty fully established. The nature of fluxions is very well explained; and the application of this mode of calculus to other sciences, is pointed out with great propriety. The improvements chiefly occur in the following articles: CENTER, CYCLOID, EVOLUTE, INFLECTION, MAXIMA and MINIMA, POINTS of *contrary flexure*, QUADRATRIX and QUADRATURE of *Curves*, RADIUS of *Curvature*, RECTIFICATION of *Curves*, SPIRAL, TANGENTS, &c.

In Geography there are many original articles, and various additions to the old ones, those on the figure and magnitude of the EARTH, the EQUATOR, GLOBES, MAPS, ZONE, &c. are either new or enlarged. Dr. Halley's Theory of the heat of climates is clearly explained; and the objections of Dr. Rees have not only great force, but they contain a variety of well authenticated facts. The length only of this article prevents us from transcribing it, for the subject is very nearly connected with Mr. Kirwan's Estimate.

The various arts which belong to Gunnery are very well explained, and the scientific part is elucidated with the same mathematical skill which we have already had occasion to commend. The art of boring cannon is new, since the publication of the first edition, and it is included in this: carro-nades were, probably, invented since the publication of that part of the Dictionary, for the word does not occur; but their principles are, we believe, well known.

History is divided into various branches, Ecclesiastical, Civil, Natural, Sacred, and the History of Philosophy. In these different departments many additions constantly occur, which we are unable to mention particularly. The history of philosophy is chiefly the history of those institutions designed to promote it.—The academy for promoting the study of meteorology was, we believe, instituted by the elector Palatine, Theodore, at Manheim, after the period of this part of the Dictionary. We mention it as an addition to our author's collection, and as an institution from which much information is expected. The ancient Academia del Cimento appears too, rising from its ruins. It is re-established on a respectable footing; and they are pursuing their original plan of making experiments with great zeal.

Many of the articles under the head of Hydraulics are new. That very general and useful machine, the PUMP,

is described, in all its varieties, with great precision, and very comprehensively; the theory and construction of *FIRE-Engines*, with the gradual improvements and mode of application, are particularly described, and illustrated by corresponding figures. The editor has also subjoined, in a distinct article, an account of various other methods proposed for extinguishing fire. But what we consider as the principal improvement in this branch, is, the description of the different steam engines. We can find no account of any similar machine in the old edition; so that the whole appears to be the work of the present editor, and it is executed in his usual manner. A machine of this kind, whether we regard its very powerful effects, the simplicity of the contrivance, and its uniform motion, independent of assistance, is one of the greatest of human inventions, and one of which England may with justice boast. Captain Savary's original idea was undoubtedly taken from the marquis of Worcester; but the extent to which it has been since carried, the improvements which have been made, and the number of machines which have been since erected, would have exceeded the most sanguine expectations, even of that wild enterprizing mechanic. The machines made by Bolton and Watt are now preferred, and are undoubtedly the most simple, and managed with the least expence of fuel. The whole article relating to Water is written with great accuracy, and it adds to the credit of Dr. Rees, that no eagerness to reach the conclusion could make him lessen his diligence, or remit his attention. The branches of science which relate to water, viz. Hydrography and Hydrostatics, are executed with great care.

In Ichthyology are many new articles; and the fishes are arranged according to the systems of Artedi, the father of Ichthyology, as a science, and his follower Linnæus. The editor seems to have been desirous of rendering this work popular, as well as instructive to scientific readers. With this view he has not contented himself with the descriptions of the ichthyologist, but has interspersed a variety of useful observations on the migration of herrings, salmon, &c. on the structure of fish-ponds, with the method of breeding and feeding fish for the table, on the history and practice of fisheries, &c.

On insects there is much new information. The article of *ANTS* is newly arranged, and much additional instruction is inserted. The management of bees is equally improved; and their natural history explained more satisfactorily than in the former edition. We shall extract our author's account of M. Schirach's Observations.

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• It has been generally supposed, that the *queen* bee is the only female contained in the hive; that the drones are the males by which she is fecundated; and that the working bees are neutral, or of neither sex. But M. Schirach has lately established a different doctrine, which has been also confirmed by the later observations of Mr. Debrow. According to this writer, all the working or common bees are females in disguise; and the *queen* bee lays only two kinds of eggs, viz. those which are to produce the DRONES, and those from which the working bees are to proceed; and from any one or more of these, one or more *queens* may be produced; so that every worm of the latter or common kind, which has been hatched about three days, is capable, under certain circumstances, of becoming the *queen*, or mother of a hive. In proof of this doctrine, new and singular as it may seem, he alledges a number of satisfactory and decisive experiments, which have been since verified by those of Mr. Debrow. In the early months of the spring, and in any preceding month, even so late as November, he cut off from an old hive a piece of that part of the comb which contains the eggs of the working bees; taking care, however, that it contained likewise worms which had been hatched about three days. He fixed this in an empty hive, or box, together with a portion of honey-comb, &c. or in other words, with a sufficiency of food, and building materials, or wax, for the use of the intended colony. He then put into, and confined within the same box, a sufficient number of common working bees, taken from the same or any other hive. As soon as the members of this small community found themselves deprived of their liberty, and without a *queen*, a dreadful uproar ensued, which continued generally, with some short intervals of silence, for the space of about twenty-four hours; during which time it is to be supposed they were alternately meditating and holding council on the future support of the new republic. On the final cessation of this tumult, the general and almost constant result was, that they betook themselves to work; first proceeding to the constructing of a royal cell, and then taking the proper measures for hatching and feeding the brood inclosed with them. Sometimes, even on the second day, the foundations of one or more royal cells were to be perceived; the view of which furnished certain indications that they had elected one of the inclosed worms to the sovereignty. The operation has been hitherto conducted in the house. This new colony may now be safely trusted in the garden, if the weather be warm, and have the liberty allowed them of passing out of the box; of which they instantly avail themselves, and are seen in a short time almost totally to desert their new habitation. In about two hours, however, they begin to re-enter it. We should not neglect to observe, that if they should be placed near the old hive, from which they were taken, they will very often attempt to enter it, but are as constantly repulsed by their former com-



panions and brethren. It is prudent, therefore, to place them at a distance from the mother state, in order to avoid the inconveniences of a civil war. The final result of the experiment is, that the colony of the working bees thus shut up, with a morsel of common brood, not only hatch it, but are found, at the end of eighteen or twenty days, to have produced from thence one or two *queens*; which have apparently proceeded from worms of the common sort, pitched upon by them for that purpose; and which, under other circumstances, that is, if they had remained in the old hive, there is reason to suppose would have been changed into common working bees. In the present instance, the common worm appears to be converted by them into a *queen* bee, merely because the hive was in want of one. Hence we may justly infer, that the kingdom of the bees is not, if the expression may be used, a *jure divino* or hereditary monarchy, but an elective kingdom; in which the choice of their future ruler is made by the body of the people, while she is yet in the cradle, or in embryo; and who are determined by motives of preference which will perhaps for ever elude the penetration of the most sagacious naturalists.

‘The conclusions drawn by M. Schirach, from experiments of the preceding kind, very often repeated by himself and others with the same success, are, that all the common or working bees were originally of the female sex; but that when they have undergone their last metamorphosis, they are condemned to a state of perpetual virginity, and the organs of generation are obliterated; merely because they have not been lodged, fed, and brought up in a particular manner, while they were in the worm state. He supposes that the worm, designed by the community to be a *queen*, or mother, owes its metamorphosis into a *queen*, partly to the extraordinary size of its cell, and its peculiar position in it; but principally to a certain appropriate nourishment found there, and carefully administered to it by the working bees, while it was in the worm state; by which, and possibly other means unknown, the developement and extension of the germ of the female organs, previously existing in the embryo, is effected; and those differences in its form and size are produced, which afterwards so remarkably distinguish it from the common working bees.’

Dr. Rees very properly observes that M. Schirach has been too hasty in his description, in representing the queen bee as capable of laying eggs, before her connection with the drones, which in reality never happens. He has also confirmed, by a variety of observations, an opinion suggested by Maraldi and Reaumur, that there are drones of the same size as the common bees. These drones, which consume less honey than the larger ones, serve the purpose of supplying the early brood; but when the larger species appear, in April, they are destroyed.

Liquors

Liquors furnish an extensive department. CYDER, MEAD, METHEGLIN, MUM, QUASS, TOCAY, VINEGAR, and WINE, are articles which have been greatly improved. Mr. Henry's method of making artificial yeast is also described; and though Mr. Henry's reasoning on the subject of fermentation is erroneous, the artificial yeast promises to be of service.

In Lithology there are many additions. Those which relate to the DIAMOND are very satisfactory. The various systems of lithology are shortly mentioned; but his collection is incomplete, independent of its not containing, from the time of publication, M. Daubenton's very extensive system. The latest crystallographers are not mentioned.

In Logic we observe among the new articles, and those to which valuable additions have been made, ABSTRACTION, DEMONSTRATION, IDEA, IDENTITY, INDUCTION, INTUITION, METHOD, MODE, PROPOSITION, REASONING, SOPHISM, SYLLOGISM, WHOLE.

In Magnetism we find an accurate account of Nairne's dipping needle, and of the different kinds of artificial magnets. This part of the subject is very complete. The comparison between electricity and magnetism is less so; Æpinus's theory, which is, in many respects accurate, and in every one ingenious, is only slightly hinted at.

Manufactures afford very numerous and extensive articles. In these branches there have been many improvements; and we may expect a proportional number of additions. We shall enumerate the subjects which are improved, and enlarge a little on those which are particularly curious. BLEACHING, CANDLES, CHARCOAL, CHOCOLATE, and Delf Ware, are articles which are somewhat extended. The latter, even with the additional articles of GLAZING, to which we are referred, is more short and incomplete than we wished, especially as our countrymen have lately so much improved it. The Staffordshire wares are described almost at the end of the article of Pottery; but the account is unsatisfactory, and a little incorrect: the editor refers to Porcelain, where no notice is taken of this new manufacture; but

'Opere in longo, fas est obrepere somnum.'

The article of ENCAUSTIC PAINTING is, on the other hand, much improved: yet, since it was written, the subject has been greatly elucidated, and imitations have been produced, little inferior to the ancient painting. The articles of DYING, ENAMELLING, ENGRAVING, ETCHING, FOUNDRY of printing Letters, the construction of FURNACES, and the art of GILDING, are improved. The different methods of gilding are very accurately and satisfactorily detailed. The next object

of great importance, in an account of manufactures, is GLASS. Its history is related ; and, to the art of glazing, we perceive pretty numerous additions. We shall extract a part of the history of this invention, as a specimen of our author's talents in this department ; and it shall be the part which relates to the introduction of the manufacture in England, which is now arrived to so great perfection, as to be a considerable article of commerce, and, what may appear a solecism in politics, to which it has probably arrived in consequence of the high duties imposed on it.

\* According to venerable Bede, artificers skilled in making *glass* were brought over into England, in the year 674, by abbot Benedict, who were employed in glazing the church and monastery of Weremouth. According to others, they were first brought over by Wilfrid, bishop of Worcester, about the same time. Till this time the art of making *glass* was unknown in Britain ; though *glass* windows did not begin to be used before the year 1180 : till this period they were very scarce in private houses, and considered as a kind of luxury, and as marks of great magnificence. Italy had them first, next France, from whence they came into England.

\* Venice, for many years excelled all Europe in the fineness of its *glasses* ; and in the thirteenth century, the Venetians were the only people that had the secret of making crystal looking-*glasses*. The great *glass*-works were at Muran, or Murano, a village near the city, which furnished all Europe with the finest and largest *glasses*.

\* The *glass* manufacture was first begun in England in 1557 : the finer sort was made in the place called Crutched Friars, in London ; the fine flint *glass*, little inferior to that of Venice, was first made in the Savoy-house, in the Strand, London. This manufacture appears to have been much improved in 1635, when it was carried on with sea-coal or pit-coal, instead of wood, and a monopoly was granted to sir Robert Mansell, who was allowed to import the fine Venetian flint *glasses* for drinking, the art of making which was not brought to perfection before the reign of William III. But the first *glass* plates, for looking-*glasses* and coach-windows, were made in 1673, at Lambeth, by the encouragement of the duke of Buckingham ; who, in 1670, introduced the manufacture of fine *glass* into England, by means of Venetian artists, with amazing success. So that within a century past, the French and English have not only come up to, but even surpassed the Venetians, and we are now no longer supplied from abroad.

\* The French made a considerable improvement in the art of *glass*, by the invention of a method to cast very large plates, till then unknown, and scarce practised yet by any but themselves and the English.

\* That court applied itself with a laudable industry to cultivate and improve the *glass* manufacture. A company of *glass*-men



men was established by letters patent ; and it was provided by an arret, not only that the working in *glafs* should not derogate any thing from nobility, but even that none but nobles should be allowed to work therein.'

GOLD COLOURED METAL ; JAPANNING ; INK making ; IVORY, *staining of* ; LACQUERING, MARBLE, *colouring of* ; PAPER *flock, hangings* ; PAPIER MACHE *Pastes* ; POT-ASHES, *various methods of making*, have equally shared the attention of the editor, and have received improvements from his collections. The history of Silk is extremely curious, and well executed. The receipts for silvering are well chosen, and many of them, we know, will answer well.

The HISTORY of the SOCIETY of ARTS and ARTISTS is chiefly new ; and the whole process of the preparation of sugar is also new. The account of stocking-frames is greatly improved. What Dr. Rees has collected of the invention deserves notice, as it combines circumstances hitherto little known.

' But this account of the original inventor of the *stocking-frame* seems to be erroneous, as it is now generally acknowledged, that it was invented in the year 1589, by William Lee, M. A. of St. John's college, in Cambridge, a native of Woodborough, near Nottingham. Soon after he had completed the frame, he applied to queen Elizabeth for protection and encouragement, but his petition was rejected. Despairing of success at home he went to France, under a promise of being patronized and recompensed by Henry IV. and with nine of his servants, settled at Roan in Normandy. But Mr. Lee, disappointed by the sudden murder of the French monarch of the reward which he had reason to expect, died of a broken heart at Paris. After his death seven of his workmen returned with their frames to England, and, in conjunction with one Aston, who had been apprentice to Mr. Lee, and who had made some improvements in his master's invention, laid the foundation of this manufacture in England.

' In the space of fifty years the art was so improved, and the number of workmen so much increased, that they petitioned the protector to constitute them a body corporate, but their request was refused. King Charles II. in 1663, granted them a charter, extending their jurisdiction to ten miles round London. See COMPANY.

' Such is the account given of this invention by Dr. Deering in his History of Nottingham, p. 100. who has also described the *stocking-frame*, and exhibited several figures of this machine, and of the numerous parts of which it consists.

' Mr. Lee's invention, about twenty-eight years after we had first learned from Spain the method of knitting them by wires and needles, has proved a very considerable benefit to the *stock-*  
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*ing* manufacture, by enabling England in after times to export vast quantities of *silk stockings* to Italy, &c. where, it seems, says Anderion (Hist. Com. vol. i. p. 435.) by sir Josiah Child's excellent Discourses on Trade, first published in 1670, they had not then got the use of the *stocking-frame*, though not much less than one hundred years after its invention. Yet Dr. Howell, in his History of the World (vol. ii. p. 222.) makes this invention eleven years later, viz. anno. 1600; and adds, that Mr. Lee not only taught this art in England and France, but his servants did the same in Spain, Venice, and in Ireland.

'A late writer in the Bibliotheca Topographia Britannica, N<sup>o</sup> 7, says that Mr. Lee, after some years residence in France, received an invitation to return to England, which he accepted, and that thus the art of frame work knitting became famous in this country. This account of the invention, he adds, is most generally received, though it has also been attributed to a Mr. Robinson, curate of Thurstaston, in Leicestershire. The first frame, we are told, was brought into Hinckley, before the year 1640, by William Iliffe; and now the manufacture of this town is so extensive, that a larger quantity of hose, of low price, in cotton, thread, and worsted, is supposed to be made there than in any town in England. The manufacture now employs about two thousand five hundred and eighty-five working people; the number of frames is computed at about one thousand, and there are also about two hundred in the neighbouring villages.

'The editor is informed, that about the year 1756, Messrs. Jedidiah Strut and William Woollat of Derby, invented a machine, by which, when annexed to the *stocking frame*, the turned ribbed *stockings* are made the same with those made upon the common knitting-pins. These, together with the manner of making the open-work mills in imitation of the French mills, a curious sort of lace for caps, aprons, and handkerchiefs, as well as a great variety of figured goods for waistcoats, &c. have sprung from the same machine, and form a considerable additional branch of the *stocking* trade.'

The other articles, under the head of Manufactures, which we find greatly improved, are, STAINING, SULPHUR, TANNING, TAPESTRY, and the *Manufacture of Carpets*, *Wood staining*, WOOL, History of, and the *Woollen manufacture*. YELLOW, ZINC. The receipts for varnishes are directed very properly, and they will generally succeed. The following is, we believe, not generally known.

'VARNISH. The composition of a gold-coloured *varnish*, used by the English artists for brass and silver, was communicated to some of the French academicians in 1720, by Mr. Scarlet, and, in 1738, by Mr. Graham, and published in the volume of the French Memoirs for 1761. It is as follows: take two ounces of gum lac, two ounces of yellow amber, forty grains of dragon's blood in tears, half a dram of saffron, and

and forty ounces of good spirit of wine ; infuse and digest in the usual manner, and then strain through a linen cloth. The piece to be varnished must be heated before the liquid is applied : it receives from the *varnish* a gold colour, and may be cleaned, when sullied, with warm water.'

For the more delicate substances, and particularly for brass, we apprehend, that it is better to dissolve copal in spirit of lavender and spirit of wine ; and a varnish of this kind, if it grows yellow by smoke, may be cleaned, by lightly wiping the print with a sponge dipped in spirit of wine. There is a greater difficulty, however, in dissolving copal, in any essential oil, than authors on this subject commonly suppose.

In the *Materia Medica* there are many new articles ; and the contents of mineral waters occur under the term *WATER*. The articles, in this department, are generally short, but they seldom seem to be incorrect.

We hoped to have concluded our account of this vast and important work, in the present Number ; but much remains to point out, though we have avoided engaging in extensive discussions. We shall return to the subject soon, and it will certainly be then finished.

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*A concise Account of the Kingdom of Pegu ; its Climate, Produce, Trade, and Government ; the Manners and Customs of its Inhabitants. By W. Hunter, A. M. Surgeon. 8vo. Printed at Calcutta.*

THIS is a plain, and, apparently, a faithful account of a kingdom little known in Europe. Pegu is situated on the eastern side of the bay of Bengal, nearly opposite to Orixá, and to the north-east of the coast of Coromandel. Strictly speaking, the coast of Pegu runs east and west ; for the country immediately opposite to the northern Circars is the kingdom of Ava, and the land forms an angle before we arrive at Pegu.

Pegu is a conquered country, and shares all the miseries of delated despotism : their conquerors are their northern neighbours of Ava ; but the inhabitants of Pegu struggled hard for their liberty, and feel the weight of their chains so severely, that few years elapse without being distinguished by unsuccessful struggles for it. This country is of great consequence to our settlements in India, since, from it, they derive the most durable kind of wood which that neighbourhood produces. It is called the teak-wood, and it is not only useful for ship-building, but for various kinds of furniture. The wood from the neighbourhood of Bombay



is superior to it, but its distance renders it expensive. Tin is also found in that part of the continent, as well as a little gold; and bees wax is one of their staple commodities: their honey has a strong taste, and is said to be not only disagreeable, but unwholesome.

The Peguers are spirited and warlike; but their northern neighbours excel them, in these qualities. Mr. Hunter mentions a strong instance of the spirit and perseverance of the invaders. A French frigate endeavoured to assist the Peguers, when the armies of the king of Ava attacked them; secure in their floating battery, they seemed to despise the anger of their enemies; but they were attacked at once by numerous boats; and though they defended themselves with spirit, and of course made the greatest devastation among their assailants, the frigate was boarded and taken.

In their manners, they seem to be open, generous, and hospitable: they have not the indolence or the jealousy of the eastern nations. To our East India Company they pay great respect, and whatever may be the motives of party, in detracting from the characters of their servants, it is certain, from indisputable facts, that they receive more attention, and are treated with greater regard in India than subjects of any other European nation. It is justly observed by Mr. Hunter, that travelling, and surveying the manners of other countries, not only enlarge our acquaintance with the human mind, but leads us to compare different customs, and sometimes show the absurdity of our own. In one or two instances, we suspected that he had tortured his representations, to make them more severe satires on our customs; but the plain and honest manner conspicuous in other parts of the work, soon destroyed the suspicion. We shall select a passage as a specimen, and shall prefer one in which we thought that we perceived the tendency just now mentioned.

‘ In the government of this country, we see despotism prevail in its full extent, and despotism too of the very worst kind; for the inhabitants are under the absolute power of a set of petty tyrants, who are themselves nothing more than slaves to the king of Ava. As they have little or no emolument, except what they can raise by extortion, it is exercised in the most unlimited manner. They take cognizance of all disputes between individuals, that come to their ears, without the case being laid before them by either of the parties; and on whatever side the cause is determined, there is a never failing charge brought in against both, for justice, as they express it; and this price of justice, is often three or four times greater, than the value of the matter in agitation.

An instance of this kind fell under my own observation, in a trivial dispute, which happened between two English gentlemen, when the judges condemned each party to pay tripple the sum contested; for justice, which neither of them had ever thought of seeking at such a tribunal. Yet, however absurd this may appear, it is, perhaps, nothing more than a prejudice, arising from the force of habit, that makes us look with contempt and indignation on those mercenary retailers of justice, and yet feel no similar emotions, when we see, in a country famed for the wisdom of its government, a poor man, by appealing to the laws of that country, in a cause where equity is plainly on his side, reduced to ruin; merely because his antagonist is rich. But the inconveniencies that this government labours under are not only those of despotism, the unhappy subjects feel those of anarchy too. There are about twenty persons concerned in the government of Rangoon, who, though one is subordinate to another, and though matters of the first consequence are determined in a council of the whole, can yet act separately; and any one member of this body can, by his own authority, give out orders, which no inhabitant of Pegu dares to disobey. Those orders may be contrary to the sense of the whole body, in which case they are, indeed, reversed in council; but then there are instances, and I myself observed one, of such orders being, notwithstanding, repeated, more than once, by the same person, and obeyed, each time, till they were again reversed; nor was any redress obtained by the party aggrieved, or any effectual measures taken to prevent such a contempt of authority for the future.'

The country itself is low and sandy; but it is not unwholesome either to the natives or strangers: perhaps the tides, which rise with rapidity, and to great heights, produce a brisker circulation of the air than in other low spots; and, from the antiseptic exhalations, correct the impurities of that element. Mr. Hunter proposes that a settlement should be formed in this country, to procure wood of the best kind, and to obtain gold for the China market. The wood would be highly advantageous in case war was carried to the bay of Bengal, and the gold might, he thinks, be procured for opium, which is already a staple commodity. But till we have something more valuable than opium to offer, or a more varied assortment of merchandise, our returns from thence cannot be considerable.

The Appendix contains observations on the hair, and on the wool of sheep, in hot countries. Mr. Hunter endeavours to show that the degeneracy of the fleeces in warm climates is owing to relaxation; and that the hair is, in fact, an inspissated fluid, drawn out like the silk of the silk-worm, or the web of the spider. The relaxation is supposed to enlarge the pores through

through which it is drawn, and, in consequence of that enlargement, the hair must be larger, stronger, and thinner. These are changes which hair is supposed to undergo in warm climates; and this tendency, in the Spanish sheep, is said to be counteracted by ochre. We shall not add any observations on this subject, because our author has, in no respect, proved his different positions. It is probable that the changes in the hair, are remotely connected with relaxation, because they are connected with heat; but the heat seems to operate in a way, of which Mr. Hunter appears not to be aware. Indeed every part of the physiology of hair is yet uncertain.

Another part of the Appendix contains a description of some artificial caves, in the neighbourhood of Bombay. These caves are not only curious on account of the statues which they contain, but as they are found in a country where the indolence of the inhabitants resists every incitement to exertion. The sculpture is also represented to be executed in a good style. It is evidently not the work of the present inhabitants, as the features do not resemble them, and, it is not probable that they would ever engage in so laborious an undertaking: neither the style of the artists, nor the subjects, lead us to any suspicion of the authors. One of the statues is a woman with a single breast; but the fable of the Amazons is now exploded.—Another, and one conspicuous in different places, is a man pressing his hand on the head of a dwarf, who expresses great pain; but this too scarcely leads to any explanation. The soldiers of Alexander, we believe, never reached so far; and we must either refer these antiquities to the Arabians, who, we have reason to think, sometimes reached the opposite continent; to the Tyrians, who certainly navigated the Persian Gulf, or to the ships of Solomon, who went in the same track for gold. It is not necessary to examine, at any length, the different pretensions of these nations; but we have many reasons for referring them to the expeditions of Solomon.

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*Essays on the Hepatitis and Spasmodic Affections in India.* By Thomas Girdlestone, M. D. 8vo. 2s. Murray.

DR. Girdlestone gives a more instructive and satisfactory account of the hepatitis, than we have yet received. He divides the complaint into the chronic, acute, and suppurative stages. The general form of the disease is the first, and it seems to arise from the very great relaxation necessarily brought on by the heat, which is peculiarly felt in the system of the vena portarum, on account of the slow circulation through these vessels. The acute stage is inflamma-



tory, from errors in diet, or strong liquors; and the suppurative stage, which is chiefly observed by the hollow cough, or external tumor, in reality, by the abscess pointing either externally or towards the lungs, concludes the scene. In fact, the disease seems to be what our author calls the chronic stage: the acute one is accidental, and the suppurative rather the consequence. There are no certain pathognomonic to point it out. A languor, dejection of spirits, impaired appetite, and an uneasy sensation, when the finger is pressed pretty deep in the region of the liver, are the principal symptoms. Dysenteric gripes and stools frequently attend the progress.

The cure by means of mercury is well known. Our author explains its operation, with great probability, from its giving force and energy to the circulation. He prefers, however, mercurial ointment, used in friction, to mercury internally; and observes, that the more mercury is accumulated before the gums are affected, the success is proportionally more certain and complete. The gums, in this disease, are usually hard; but if they are soon inflamed by the mercury, before the system is generally affected, as appears to be the case when the medicine is given by the mouth, it loses its effect. It appears probable, from our author's observations and cases, that the affection of the gums is only the effect of the cure, not the cause of it; for the symptoms are usually relieved, in the best conducted cases, before the gums are inflamed. Perhaps the hardness of the gums prevents their being easily affected, and of course more mercury is accumulated than in ordinary cases, before its peculiar effects appear. When the mercury has been long continued, or frequently repeated, a salivation continues during the rest of life. The quantity of the ointment, recommended by our author, is a drachm of the strongest sort, every day.

The spasms of India are, in Dr. Girdlestone's opinion, the effects of cold. The extremities are unusually cold, and the stomach is exceedingly irritable. He recommends strong frictions, with warm cloths, injections of warm water, with tinctura thebaica, warm wine, with a solution of opium, given repeatedly, though at first thrown up: when the stomach retains the wine, the opium is omitted. His whole practice reminds us of a curious observation of Sydenham, who, in one of his epidemics, remarks, that he could not check the vomiting till he had brought on some determination to the surface.

We have thus given the outline of Dr. Girdlestone's opinions. Many curious and important remarks on diet,  
and

and the other medicines useful in hepatitis, must be learned from the work itself. It contains the dictates of experience, assisted by a careful attention and a correct judgment.

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*An Essay on Phlogiston, and the Constitution of Acids. By Richard Kirwan, Esq. F. R. S. 8vo. 3s. 6d. in Boards. Elmsly.*

THE heresy of Mr. Lavoisier has divided the chemical world; and though the sects of the Phlogistians and Antiphlogistians may not become so important as some others, whose titles resembled each other more nearly, yet they have given a diversity to the language of chemistry, and a different appearance to the facts on which the science is built. Mr. Kirwan is a very able and intelligent chemist: he enters his protest against the doctrine of Mr. Lavoisier; suggests some alteration in his system, respecting the composition of acids, and supports, but with no very good grace, the discovery of the composition of water. In our enquiries, we have had reason to join Mr. Kirwan: we early engaged in support of phlogiston, while we gave the French chemist full credit for the discoveries respecting acids: after a pretty careful examination also of the controversy, we gave it, as our opinion, that the theory of the composition of water was probably well founded. Mr. Kirwan, in this work, differs in some measure from Lavoisier, and thinks that the oxygenous principle, which the French chemist supposed to be vital air, divested of its specific heat, is in reality fixed air. We must own, that his arguments and experiments, on this subject, have not brought full conviction: for though he has repeatedly extracted fixed air from those bodies which possess the oxygenous principle, yet the quantity is uncertain, sometimes trifling, and very generally unequal to the changes produced. We should rather recur to our former position, and suppose that, in such circumstances, atmospheric air is absorbed; but that its appearance, when separated, depends on the affinity which the body, in question, may have for its component parts; so that the pure and fixed, or the phlogisticated portions, are alone suffered to escape. Mr. Kirwan professes his full belief of the doctrine of the composition of water, but is unwilling to acknowledge that, in any process, it is decomposed. It is indeed highly probable that the decomposition of water is less frequent than some theorists, to serve their own purposes, have supposed. We must, however, examine this little work in its order.

Mr. Kirwan begins with ascertaining the weight of given bulks of different airs, and we shall at once give his decision

on

on those subjects by transcribing his table; but we should add, that his determinations are as just as his premises are accurate.

100 Cubic Inches.	Gr.	Proportion to common air.
Common air	31	1000
Dephlogisticated	34	1103
Phlogisticated	30,535	985
Nitrous - -	37	1194
Vitriolic - -	70,215	2265
Fixed - -	46,5	1500
Hepatic - -	34,286	1106
Alkaline - -	18,16	600
Inflammable	2,613	84,3'

The second section is on the nature of acids, and the general principles of the new theory. In this section he adopts Mr. Lavoisier's system of an oxygenous principle, though he differs from that author in its nature. He restores too, on its native throne, the old principle of phlogiston. Indeed, in every instance where the modern heretics suppose vital air to be concerned, Mr. Kirwan would substitute fixed air; though, if the existence of phlogiston be allowed, the difference is not of great consequence, since vital air contaminated by it, in certain proportions becomes fixed air: and even in metallic calces, there is phlogiston enough to produce this change, which will appear when the air is separated. There is little doubt of the existence of this principle in some acids; but it is not equally evident in all. Mr. Lavoisier's table of the different affinities of the oxygenous principle is introduced; but is combated in almost every part: it is the object of Mr. Kirwan's criticism, and very deservedly, through the whole volume.

On the vitriolic acid our author's observations are not very numerous, its acidifying ingredient is supposed to be fixed air; and, when volatile, he thinks it contains also sulphur. Though Mr. Kirwan seems to acknowledge that, in its formation, pure air is absorbed, he thinks it becomes fixed air, as a component part of the acid. Different arguments and experiments are adduced in support of this opinion; but they chiefly amount to this, that fixed air is separated from it in different experiments. Our author is more explicit, and on a better foundation, when he shows that this acid becomes sulphur only on the addition of a positive principle.

Mr. Kirwan's section on the nitrous acid is a very valuable one, and considerably improves our knowledge of the nature of this very useful agent. Nitrous acid is composed, in our author's opinion, of nitrous basis, his oxygenous principle, united to a small proportion of phlogiston: in other words,



of fixed, pure, phlogisticated, and inflammable airs. Nitrous air, he supposes, consists of the nitrous basis, saturated with phlogiston; but it is not, in his opinion, a component part of the nitrous acid: that office is assigned to fixed air, and we regret that the length of our author's arguments, and the particular relation of his experiments, must prevent our abridging or extracting them. Yet, as we have said that the proportion of fixed air is sometimes too small to admit of its being considered as a component part, we ought to insert our author's mode of obviating the objection.

‘ It may be said with great appearance of truth, that the proportion of fixed air, thus obtained, is too small to deserve to be ranked among the constituent parts of the nitrous acid. Before I answer this objection, it will be proper to determine in what proportion it should be contained in this acid; this proportion, as we have already seen, is variable, the phlogisticated acid containing least, and the dephlogisticated most; but, in general, we may rate it at  $\frac{1}{3}$  of the acid, as existing in nitre. When the nitre is exposed to a red heat, the union of the constituent parts of the acid is gradually broken; that part of the acid which is at the surface of the alkali, being in contact with the water, which is the most volatile ingredient, is not so strongly acted upon by heat, but passes undecomposed. The residuary nitrous acid becoming now more and more concentrated, decomposes its own fixed air, and thereby becomes more and more phlogisticated. This phlogistication continues to the last, the retained part always dephlogisticating that which escapes, until it is itself at last forced out; and hence the last portion is the most impure, and even contains nitrous air.

‘ That fixed air may be decomposed in this manner, appears from sundry other experiments; for instance, that in which Dr. Priestley obtained dephlogisticated air from acetous selenite, 6 Pr. 292. and also, that in which both he and Mr. Lavoisier obtained air nearly of the goodness of common air, from limestone, after the greater part of the fixed air had passed. 6 Pr. 227.

‘ To make this matter still more intelligible, it must be observed, that if nitre be heated ever so long, yet if we examine it at any period before its total decomposition, no part of the acid will be found phlogisticated, but that near the surface, which, in the instant of its extrication, is dephlogisticated by the portion of the acid next under it, which then becomes phlogisticated, and is in the same manner decomposed in its turn, by the next inferior stratum; and this process continues until the whole is decomposed. This I have found, by pouring nitrous acid on melted nitre, which never expelled any more than a small portion of nitrous vapour; hence, Mr. Berthollet imagined that Mr. Bergman was deceived in asserting that phlogisticated nitre might be decomposed by the acetous acid; for, in effect, it can decompose but a small part of it, as only a small part of any portion of melted nitre is really phlogisticated; even dephlogisticated

cated air from red precipitate, contains a portion of fixed air, as Dr. Priestley, Mr. Lavoisier, and Mr. Monge have observed.'

Mr. Kirwan next shows, that the dephlogisticated air, supposed to arise from nitre, cannot, as has been suspected by Mr. Cavendish, and others, proceed from the decomposition of water; and he examines with great care the different results from the decomposition of nitre by detonation with charcoal. He concludes, from the result of this experiment by Lavoisier, and from the detonation of nitre with sulphur by Berthollet, that fixed air is actually formed by pure and inflammable air; that the phlogisticated air, of which nitrous acid pretty certainly contains  $\frac{1}{3}$ , is decomposed or destroyed in the operation; and that nitrous air does not consist of nitrous acid, with the addition of phlogiston. He then examines pretty fully the famous experiment which first suggested the antiphlogistic theory to M. Lavoisier; viz. the calcination of mercury, by means of the nitrous acid, and its revivification by heat: when, in the first instance, it is seen copiously to absorb pure air; and, in the second, to let it escape, while the different airs, into which the nitrous acid appears to be decomposed, make up, according to his calculation, the weight of the real acid employed. In this instance it appears to be calcined by absorbing pure air, and to be revived by losing it: no other power seems to be engaged in the operation. But this experiment Mr. Kirwan criticises with his usual accuracy, and shows that the conclusion is drawn both hastily and unfairly; he afterwards gives the phlogistic explanation of this experiment.

Mr. Kirwan then considers the marine acid, in which he thinks fixed air is the oxygenous principle; and the dephlogisticated marine acid, in his opinion, is only the common acid with an increased quantity of fixed air. In this section his theory seems to fail; and we begin to find the clue which appears to have misled him. It is perhaps improper, in any sense, to suppose the oxygenous principle to be one, which is already an acid; for it may be at once asked, what gives to fixed air its acidity? The tortoise then is only put under the elephant. Our author, however, whose ingenuity is considerable, and whose resources, from the extent of his chemical knowledge, are unbounded, finds great support for his opinion in different facts. But it cannot escape an attentive reader of his work, that his arguments are most striking where the acid contains phlogiston, in any quantity, and less so where that quantity is inconsiderable. He is of course led to suspect that the fixed air, which is the result of the decomposition, is either that portion which is absorbed from the atmosphere, or produced by an accidental contamination. In a former Review, we gave an account of M. Berthollet's very accurate and instructive experiments on

the change which the marine acid undergoes when it become dephlogisticated ; and we confess, that Mr. Kirwan has not, in our opinion, shown that the principle added is fixed, instead of pure air.

Aqua regia is the next object of our author's attention. He explains the formation of this powerful agent on his own principles, and combats with good success the theory of M. Berthollet, on this subject.

The phosphoric acid affords much room for triumph over the antiphlogistians. The existence of phlogiston in phosphorus is well established by experiments, which Messrs. Lavoisier and Berthollet have found it equally difficult to elude, or to oppose. While it contains phlogiston, it contains fixed air ; but the glacial acid is exempt both from phlogiston and from the acidifying principle : it is, in reality, the basis of the acid, and its readiness to receive the former constitutes its utility as a chemical agent.

When we arrive at the vegetable acids, fixed air becomes a very conspicuous principle. We long ago hinted, that these acids may be only a concrete form of the aerial acid ; and new discoveries give a force and a probability to our suspicion. Our author's principle may be here allowed if the terms are changed, and we suppose that, in vegetable acids, fixed air is not the oxygenous principle, but the acid itself variously modified, probably by a greater or less proportion of phlogiston. Vegetable acids are resolvable into fixed, inflammable, and phlogisticated airs, of which the two latter are pretty certainly forms of phlogiston and specific heat, though the inflammable air is not a constant, or always a very copious ingredient. The basis of sugar is supposed to be a fine ætherial oil, and the acid to be the oil with a large proportion of fixed air, and with less phlogiston than in its saccharine state. This view of the subject differs from that which we have been used to take, more in appearance than in reality. We have supposed that the acid pre-exists in the sugar, and is only evolved in the operation ; but, whether sugar is a sulphur, whose acid is obscured by a large proportion of phlogiston, or whose fixed air is obtained from the basis of the nitrous acid, is of little consequence. The constitution of the acid remains the same ; but we may add that M. Hermstadt's experiments strongly support our opinion : they were contained in our Foreign Intelligence of last month. Mr. Kirwan has properly shown that the saccharine acid contains phlogiston ; and that *its* oxygenous principle is very probably fixed air.

Having finished the examination of the acids, Mr. Kirwan proceeds to the strong hold of the antiphlogistians, viz. the calcin-



calcination and reduction of metals, and the formation of fixed air. We need not now explain the new system, nor that of Mr. Cavendish, who supposes, that the imperfect metals take in water, during their calcination, while, in the more perfect ones, it is indifferent whether they or the water lose the principle of inflammability. We shall extract, however, our author's arguments, against the supposition, that water is decomposed in these processes.

‘ And in effect, if we consider the decomposition of water in this case, in a chymical point of view, it cannot but appear exceeding improbable; every decomposition arises either from a single or a double affinity; therefore, if, during the dissolution of iron in the dilute vitriolic acid, water is decomposed, this must happen either by virtue of a single or of a double affinity; yet neither can be said to take place; not a double affinity, since the inflammable air escapes without uniting to the acid; not a single affinity, since there is no proof that any such affinity exists in this case; and if it did exist, water should as easily be decomposed by iron without an acid, as when an acid is present, or rather more easy, since the affinity to the water must diminish its tendency, or that of any of its component parts, to unite to any other substance, and on that account we find a variety of solutions precipitated by the vitriolic acid, merely because it attracts the water necessary to hold them in solution. I would be glad to know what part the acid acts here; in the new theory it seems to be quite idle, and contributes nothing to the solution. Why does not its oxygenous principle unite to the inflammable air of the water, at the same time that the oxygenous principle of the water unites to the metal? since, by the table of Mr. Lavoisier, this principle has a greater affinity to inflammable air than to sulphur. How comes it that volatile vitriolic acid disengages inflammable air from iron? since its own oxygenous principle is sufficiently developed, and sufficiently copious to unite to iron, without having recourse to that of water. How does fixed air expel inflammable air from iron? Do all acids help the decomposition of water, and yet remain inert?’

Again,

‘ It is true that vitriol of iron, when distilled, gives at last dephlogisticated air; but this air evidently proceeds from the decomposition of part of the acid, and not from that of the water; for its production is always preceded by a large quantity of vitriolic air, arising from the absorption of part of the fixed air of that acid, by the metallic calx.

‘ To prove the decomposition of water, Mr. Lavoisier made the following experiments: 1st. He let up a mixture of water and filings of iron, into a tube filled with mercury, and in a few days obtained a small quantity of inflammable air. 2dly. Having passed the steam of boiling water through a red-hot iron tube, he obtained a large quantity of inflammable air; the inner sur-

face of the tube was calcined, and had the appearance of what is called the *specular*, or *tessular iron ore*, of great hardness, scarcely magnetic, and affording no air with acids. The iron increased in weight from 25 to 30 per cent.

'These experiments seem to me to prove nothing more than that water unites to iron, and expels inflammable air from it, which is further confirmed by the following considerations: if a little water be thrown on a large heap of filings of iron, a considerable heat is soon produced, which appears to proceed from the condensation of the water while uniting to the iron; the heat given out exceeding that absorbed by the inflammable air, whose weight is exceeding small. In Mr. Lavoisier's hypothesis, it is only the oxygenous principle of the water, which is absorbed by the iron; and as this is already exceedingly condensed in water, it does not appear to me likely to give out much heat. 2dly. This calx is very different from that formed by the absorption of air, such as rust; for fixed air may be extracted from this, and even dephlogisticated air; but no air of any sort can be extracted from iron calcined by water.'

Dr. Priestley's experiments, which our author thinks make against the new doctrine, are next examined: they have already had a place in our Journal. Mr. Lavoisier's other experiments to the same purpose, on the effects of steam on charcoal, prove, in our author's opinion, no more than that steam has the power of decomposing both charcoal and the iron tube in which it was contained. He next endeavours to show, that metals, in calcination, absorb fixed air, and endeavours to elude the objection that fixed air is not to be recovered from calces in a sufficient quantity to support that opinion, by observing that the phlogiston is greedily absorbed by the reduced metal. It must chiefly appear then, when any neighbouring body can afford them that phlogiston, though he forgets that the fixed air may be as well produced from these neighbouring bodies. Indeed this whole section greatly supports the opinion which we gave in the commencement of this article. In calcinations, in the moist way, fixed air is more conspicuous; but it is impossible to elude the suspicion of the water being, in some degree, concerned in the production. The rest of the section is employed in combating Mr. Lavoisier's opinions, in which the author is generally successful.

The next section is on the dissolution of metals, in which Mr. Kirwan departs somewhat from the usual doctrine, in support of fixed air; but he confutes the antiphlogistians, particularly from the affinities of different acids to metals in different states of calcination. He shows also, that the new system is incapable of explaining the precipitation of metals by each other. In fact, however simple in appearance, and however easy the solution of some phenomena may appear, when viewed

through the medium of Lavoisier's system, yet when every operation is brought to the test of it, difficulties unforeseen, and contradictions unsuspected, continually arise. It is specious, but it is delusive. Mr. Kirwan has contributed his share to destroy this dangerous monster; particularly dangerous, because it allures by a pleasing form and a flattering address.

The volume concludes with some remarks on the properties of iron in its different states, and its conversion into steel. The facts are chiefly taken from Bergman's third volume, and have been the subject of our former consideration: the explanation contributes to support the doctrine of phlogiston. On the whole, Mr. Kirwan's work has contributed greatly to our instruction; and if we ever differ from him, it is with hesitation and diffidence; for his extensive knowledge, no less than his amiable candour, demand our highest respect.

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*Addresses to the Deity. By James Fordyce, D. D. 2d Edition. Small 8vo. 3s. sewed. Cadell.*

WHEN we compare the simple and unadorned language of the prayer dictated by our Saviour for our use, with the splendid pomp of words in which the Deity is sometimes addressed; when we see the genuine language of resignation conclude the petition which we have ventured to raise to the throne of grace; and, on the other hand, survey the confidence with which some preachers have arrogated to themselves, and their sect, the favour of the Almighty, disgust and indignation but weakly express the feelings which they excite. To expiate, indeed, on the perfections and the attributes of the Deity, may render the mind more sensible of our entire dependence on him, and teach us to bear with a calm resignation, or a proper fortitude, the dispensations of Providence; but, in this flowery path, it is too common to hear a full display of brilliant imagery, till the suppliant is lost in the poet; and what was designed to be a prayer, becomes an eulogetic meditation, while minute descriptions and insignificant details debase the subject which they were intended to heighten and to adorn. These are two very distant and almost opposite errors; but Dr. Fordyce is more frequently guilty of the last; and he has indeed acknowledged that these Addresses are rather contemplations than supplications. They chiefly consist of sentiments arising, in different situations, in a well regulated mind, which feels that God is manifested in all his works, and that in goodness he has made them all. This is a noble and extensive field; and the view of the sea, the subject of one of the Addresses, is a peculiarly happy one. The author, however, sinks too low when he mentions the use of salt to preserve meat. The other



subjects of the Addresses are on salvation by Christ; on contemplation; on Providence; and on the death of Dr. Samuel Johnson. The last Address is not a very proper subject; for the author addresses the world more often than the Deity, who surely was not to be informed of doctor Johnson's opinions, or the state of his mind on his death-bed.

We shall select, as a specimen of the Preface, Dr. Fordyce's sentiments on the conduct of our devotions.

'Wherever the vital and unadulterated spirit of Christian devotion prevails, its immediate object will be to please Him whom we were made to please, by adoring his perfections; by admiring his works and ways; by entertaining with reverence and complacency the various intimations of his pleasure, especially those contained in holy writ; by acknowledging our absolute dependence, and infinite obligations; by confessing and lamenting the disorders of our nature, and the transgressions of our lives; by imploring his grace and mercy through Jesus Christ; by interceding for our brethren of mankind; by praying for the propagation and establishment of truth, righteousness, and peace on earth; in fine, by longing for a more entire conformity to the will of God, and breathing after the everlasting enjoyment of his friendship. The effects of such a spirit, habitually cherished, and feelingly expressed before him, with conceptions more or less enlarged and elevated, in language more or less emphatical and accurate, sententious or diffuse, must surely be important and happy. Among these effects may be reckoned a profound humility in the sight of God, a high veneration for his presence and attributes, an ardent zeal for his worship and honour, an affectionate faith in the Saviour of the world, a constant imitation of his divine example, a diffusive charity for men of all denominations, a generous and unwearied self-denial for the sake of virtue and society, a total resignation to Providence, an increasing esteem for the Gospel, with clearer and firmer hopes of that immortal life which it has brought to light.'

From the too splendid imagery of the descriptive part we can select no very advantageous passage. Perhaps in the following paragraph the reader will perceive, more clearly, the rational and religious sentiments of the author.

'When men dispute the truth of a particular Providence, as unworthy of Thee, and inconsistent with the general order of thy proceedings, their thoughts are narrow, and their objections vain. They forget that it was easy for thy wisdom, from the beginning to include in thy comprehensive plan, whatever occasional dispensations might in the progress of ages seem fit to thy rectitude or thy goodness. They forget, that those dispensations are doubtless calculated to carry on the same benevolent and righteous ends, for which the prevailing constitution of thy government was originally devised. They forget, that the hearts

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of all are in thy hand, and that by the immediate influence of thy Spirit, or the subordinate agency of mortal or immortal instruments, Thou canst turn them whithersoever Thou wilt, in a manner productive of measures and events connected with the welfare or chastisement of thy subjects, at the instant that they feel themselves free. Great God, what solicitude to please, what fear of offending Thee, what thankfulness for every merciful interposition, and every gracious assistance, should not these considerations inspire? What fervent prayers for thy continued protection and aid? Oh defend me, thy feeble servant, from such calamities as might overwhelm my nature; or let thy powerful arm support me under them; and keep me, I beseech thee, from such temptations as might seduce my steps from the path of integrity. So dispose and govern my heart, that I may think, and act, and live, as in thy presence, with a sacred regard to thy authority, and never wilfully sin against Thee.'

While these Addresses display the piety and benevolence of the author, they do not give, in our opinion, a favourable idea of his judgment, except indeed, as we have reason to conclude from the passage which we have selected from the Preface, he sees the right road, though he travels in one not so well adapted for his purpose.

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*Interesting Views of Christianity: being a Translation of Part of a Work of M. Bonnet. 12mo. 2s. 6d. in Boards. Dilly.*

*Philosophical and Critical Enquiries concerning Christianity. By Charles Bonnet, of Geneva, F. R. S. Translated by John Lewis Boissier, Esq. 8vo. 6s. in Boards. Stockdale.*

MR. Bonnet, very early, attempted to counteract the disadvantageous impressions which some of his philosophical works had made, by publishing a treatise in defence of Christianity. The *Palingenésie Philosophique* was published at Geneva, in 1769; and, the following year, another edition appeared, which, nearly about the same time, was followed by a separate publication of that part which related to Christianity. It is this separate part which our present author has seen, and from which his translation is taken. In Mr. Bonnet's new work, he divided the observations into chapters; and on the appearance of a second edition of the *Recherches sur les Preuves de Christianisme*, in 1771, was added a chapter on the proofs of the existence of a God. When our author's works were collected at Neufchatel, the separate part was again incorporated with the *Palingenésie*; and those who are possessed of the complete edition will find that this work forms the 17th, 18th, 19th, 20th, and 21st parts of the *Palingenésie*. We have some reasons to suspect that the translation has followed the edition of 1779. The

subjects of the Addresses are on salvation by Christ; on contemplation; on Providence; and on the death of Dr. Samuel Johnson. The last Address is not a very proper subject; for the author addresses the world more often than the Deity, who surely was not to be informed of doctor Johnson's opinions, or the state of his mind on his death-bed.

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‘When men dispute the truth of a particular Providence, as unworthy of Thee, and inconsistent with the general order of thy proceedings, their thoughts are narrow, and their objections vain. They forget that it was easy for thy wisdom, from the beginning to include in thy comprehensive plan, whatever occasional dispensations might in the progress of ages seem fit to thy rectitude or thy goodness. They forget, that those dispensations are doubtless calculated to carry on the same benevolent and righteous ends, for which the prevailing constitution of thy government was originally devised. They forget, that the hearts  
of



of all are in thy hand, and that by the immediate influence of thy Spirit, or the subordinate agency of mortal or immortal instruments, Thou canst turn them whithersoever Thou wilt, in a manner productive of measures and events connected with the welfare or chastisement of thy subjects, at the instant that they feel themselves free. Great God, what solicitude to please, what fear of offending Thee, what thankfulness for every merciful interposition, and every gracious assistance, should not these considerations inspire? What fervent prayers for thy continued protection and aid? Oh defend me, thy feeble servant, from such calamities as might overwhelm my nature; or let thy powerful arm support me under them; and keep me, I beseech thee, from such temptations as might seduce my steps from the path of integrity. So dispose and govern my heart, that I may think, and act, and live, as in thy presence, with a sacred regard to thy authority, and never wilfully sin against Thee.'

While these Addresses display the piety and benevolence of the author, they do not give, in our opinion, a favourable idea of his judgment, except indeed, as we have reason to conclude from the passage which we have selected from the Preface, he sees the right road, though he travels in one not so well adapted for his purpose.

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*Interesting Views of Christianity: being a Translation of Part of a Work of M. Bonnet. 12mo. 2s. 6d. in Boards. Dilly.*

*Philosophical and Critical Enquiries concerning Christianity. By Charles Bonnet, of Geneva, F.R.S. Translated by John Lewis Boissier, Esq. 8vo. 6s. in Boards. Stockdale.*

MR. Bonnet, very early, attempted to counteract the disadvantageous impressions which some of his philosophical works had made, by publishing a treatise in defence of Christianity. The *Palingenesie Philosophique* was published at Geneva, in 1769; and, the following year, another edition appeared, which, nearly about the same time, was followed by a separate publication of that part which related to Christianity. It is this separate part which our present author has seen, and from which his translation is taken. In Mr. Bonnet's new work, he divided the observations into chapters; and on the appearance of a second edition of the *Recherches sur les Preuves de Christianisme*, in 1771, was added a chapter on the proofs of the existence of a God. When our author's works were collected at Neufchatel, the separate part was again incorporated with the *Palingenesie*; and those who are possessed of the complete edition will find that this work forms the 17th, 18th, 19th, 20th, and 21st parts of the *Palingenesie*. We have some reasons to suspect that the translation has followed the edition of 1770.

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The *Recherches* are not translated entire: of the 17th and 18th parts an abstract only is given, but it is a correct one; and as, in this abstract, the translator does not particularly allude to the 2d and 3d sections, which we have mentioned as added to the former work in 1771, we suppose that he followed a prior edition. We mention this the more carefully, because what we shall say of the translation may, in some measure, arise from the variety of the two editions employed. Our's is that of Neufchatel; but we have no reason to suspect, from M. Bonnet's Preface, that the variety is considerable.

The work itself is clear, comprehensive, and judicious. The arguments are connected with the brevity and force which render M. Bonnet's works singularly striking, and powerfully persuasive. The chain of evidence is no less complete than well connected: in fact, few works, without any great novelty of argument, have so greatly assisted the cause of Christianity. It cannot be new to many of our readers, and we must of course decline engaging in a particular account of it.

From the translator's abstract we were convinced that he understood the author's system very accurately; and we supposed that he could not have easily erred, in rendering the meaning of words when he was in possession of the ideas. Yet, either from haste, or some other cause, we found several little errors very early. We, therefore, compared a few of the first chapters with the original, and we shall mention some of the errors, chiefly to recommend a careful revival, previous to another edition. In the greater number of passages, the sense is rendered not only with fidelity, but with great propriety.

Even in the beginning, 'suitableness,' seemed a word which we could have wished had been avoided. Soon afterwards, the 'unction' of language obliterated the lesser error, by the absurdity of the greater. We know, that the original word is 'onction'; and that there is seldom any other meaning for it in dictionaries. But it could not be properly applied; and a little enquiry might have discovered what was meant. Onction sometimes signifies grace; and, when applied to language, that venerable air which religion imparts; or, in a bad sense, that religious cant which superstition or imposture often affect.

To 'attest to mankind,' is the English of 'attester au genre humain'; but we wish it had been an English idiom, and that the evangelists had been said to bear witness to a truth. If they bear witness, mankind would be a pleonasm. After a few pages, we meet with a still greater fault. The apostles are said to have 'performed greater things than their master did.' This is neither true, nor the language of Bonnet: our translator is occasionally too eager,

The



The second section is more correct; we shall transcribe a Part of it as a specimen:

‘ I know that several parts of the deposition appeared in a very short time after the events, attested by the witnesses. If these are the work of any impostor, he will undoubtedly take great care not to be very circumstantial in his narrative, that he may not furnish the ready means of his own confusion. Nothing, however, can be more circumstantial, than this deposition now before me: in it I find the names of several persons, their quality, their offices, their places of abode, their maladies: I see places, times, circumstances, distinctly marked, and a hundred other minute details; all which concur in determining the event most precisely. In a word, I cannot doubt, but that if I had lived in the place, and at the time in which the deposition was published, it would have been very easy for me to ascertain the truth of the facts. *And this surely I should not have failed to do: would it have been neglected by the most obstinate and powerful enemies of the witnesses?*

‘ I search therefore in the history of the times, for depositions formally contradicting the deposition of the witnesses, and meet with nothing but vague accusations of imposture, of magic, or of superstition. Upon this I put the question to myself, whether a circumstantial deposition can be destroyed by such vague and indefinite imputations?

‘ But, perhaps, say I to myself, the depositions which formally contradicted that of the witnesses, are lost. Why was not the deposition of the witnesses also lost? Because it has been preserved as a most valuable treasure, by a numerous society which still subsists, and which has transmitted it to me. But I discover another society, equally numerous, and much more ancient, which being descended, by uninterrupted succession, from the first adversaries of the witnesses, and inheriting their hatred and prejudices against Christianity, could have as easily preserved those counter depositions, as the many other monuments, which at this day it produces with so much complacency, though many of them tend to betray and confound it.

‘ Besides, I perceive very strong reasons, which must have engaged this society to preserve with the utmost care all the writings in opposition to those of the witnesses; I have particularly in my eye that most weighty and most odious accusation, which the witnesses had so uniformly, so repeatedly, and with such unparalleled courage, dared to charge upon the magistrates of this society, and the astonishing success of the testimony given to the facts upon which they grounded their accusation. How easily could magistrates, who had in their hands the management of the police, have judicially contradicted this testimony! How much were they interested to do so! What might not have been the effect of a judicial and circumstantial deposition, bearing on every page a refutation of that of the witnesses?

Since, therefore, the society, of which I am speaking, cannot



not produce in its own favour a deposition of this sort, I am justly authorised to think, that it never could advance any valid objection against the witnesses.

'It comes strongly into my mind, that the friends of the witnesses, after they became powerful, might have destroyed the writings adverse to their cause. But they have not been able to destroy this great society, their declared enemy; and they did not become powerful till many ages after the event, which was the principal object of the testimony. I am, therefore, obliged to abandon a supposition, which appears to be destitute of foundation.'

In the passage marked by Italics, it would have been more neat, and more near to the original, if the translator had said, 'And, would this, which I should not have failed to *have done*, been neglected, by the most inveterate and most powerful enemies of the witnesses?' After 'justly authorised to think,' M. Bonnet adds, on the principles of sound criticism.

We have mentioned these little oversights with no ill design. The translator's object was good, and his execution, in many respects, excellent. If we had been of his counsel, we should have recommended his translating the two volumes entire; and if his present work reaches another edition, a little care will correct these minute errors.

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When this article was ready for the press, we received another translation of this interesting work. From a careful comparison of the translations with each other, and with the original, we are convinced of the justness of our suspicion, that the former translator had seen only the separate edition of 1779.

M. Boissier's version is, in respect of accuracy and elegance, greatly superior to the other. The errors which we have just mentioned in the first translation, he has avoided, and rendered the passages, as we have done. To this there is one exception; he still retains 'attest to mankind;' a defect of idiom rather than an inaccurate version.

In the passages which we have compared, the translation is extremely correct. If we were to be fastidious, we might observe that he has not preserved the expressive brevity of the original; but, aiming probably at perspicuity, is occasionally a little too diffuse. Though this may be assigned as a general character, yet the greatest fault, which we have discovered, is of an opposite kind: we shall select the author's translation, and render it more nearly in the spirit of Bonnet, while we supply the few words which M. Boissier has omitted.

'The distinguishing characteristics of the true sublime appear in these writings; for when God is the object, it is sublime to say, *He spake, and it was done*; but it is easily discerned that the sublime

sublime occurs there only because the thing was of an extraordinary nature, and because the writer delivered it as he saw it, that is, as it was.'

We should have translated it in the following manner :

'This work is truly sublime ; for when God is spoken of, it is sublime to say, that he willed and it was done. But I can easily see that this sublimity arises from the very extraordinary nature of the thing itself'—that the writer related what he saw, that is, what was done, and *has added nothing to it.*

M. Boissier has omitted the two first chapters of the original, that is, of the 17th part of the *Palingenesie*, on

'THE IMMATERIALITY OF THE SOUL, and THE BEING OF A GOD ; both which subjects the author has treated with his usual ingenuity and force of argument. But in this country, where there are few, if any, materialists or atheists, it seemed unnecessary to enter upon the proof of truths so generally acknowledged. Besides which, it was the translator's professed design to confine himself solely to those parts of the author's work which relate to Christianity, or were indispensably necessary to introduce the subject.'

On this account the work begins with an original paragraph ; but the translator soon takes up his author, and follows him closely through the rest of his volume. M. Bonnet's preface to the separate publication of 1770, is also, with great propriety, preserved : it is an admirable one.

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*Prestwich's Respublica, or a Display of the Honours, Ceremonies, and Ensigns of the Common-wealth, under the Protectorship of Oliver Cromwell.* 4to. 7s. 6d. in Boards. Nichols.

OF this whimsical work it is not easy to give a proper account: its contents are miscellaneous, sometimes new and curious, often trifling, and occasionally fanciful. The greater part of it, however, is accurate and authentic, compiled by one of sir John Prestwich's ancestors, near the period of the events. But it is impossible for us to do more than to transcribe an account of the contents, and, in a few instances, to point out subjects of some curiosity : for the rest we must refer to the work itself, which is to be completed in another volume.

The first part contains the common-wealth table, in which it appears that Oliver was (probably) descended from Blethin ap Kynvyn, prince of Powis. It is followed by a description of the procession, with the ceremony of the investiture and installation of Oliver, by 'Edmund Prestwich, an eye and ear witness to all that passed.' This account is, in many respects, curious, and it is rendered more so by a list of the members of the house of commons who were present.

The flags and pennons of sundry commanders of companies in the service of the common-wealth, are then blazoned at length.

My



‘ My reason, adds the author, for being so prolix in each description was not to please the multitude, but each individual, whose chief pleasure is, that any circumstance, be it ever so trifling, concerning their family, is welcome; I mean, to such generous souls as tread in the virtuous principle of their forefathers.’

The armorial bearings of the commanders, &c. follow in their order, with a list of the governors or major generals, appointed to command in the different districts of England.

The charge of the military establishment of the commonwealth, as recorded in the journals of the house, on the 2d of December, 1652, was estimated at 1,496,215*l*. but by some new regulations of the council of state, the charge was reduced to 1,443,680*l*. Of infantry, there were in England, 4700 soldiers, besides officers: of cavalry 2520: in garrison were 6159 soldiers, besides officers. In Scotland were 15000 infantry, 2580 cavalry, exclusive of 560 dragoons. In Ireland, there were about 2000 men. The navy was not inconsiderable: at home were 56 ships of war, from 52 to 4 guns; abroad 26 ships of war, from 52 to 22 guns. The expence of the navy, for the year 1652, for building ships, furnishing men, &c. amounted to 829,490*l*.

The list of those, who fell in the civil war, or afterwards on the scaffold, is next inserted. The following remark we think worth transcribing.

‘ The editor cannot help observing, that at the beginning of these unhappy and uncivil wars, generally most of the old families were divided among themselves, whereby many a designing flatterer made his fortune by the ruin of both Whig and Tory; as it is a fact well known, that those of each side who acted on pure principles were generally the sufferers. Thus many ancient heads of families were clapped on the block by some great spendthrift, or designing villain, that had a fortune to raise, or had lost one. Little had the under-pullers generally to do in the quarrel, as they constantly avoided any military employment, that thereby they should have leisure to enrich themselves by the destruction and ruin of their own and the opposite party; witness the Catholic family of *Temple*, with others of the same stamp, who enriched themselves by the fall of others; nay, even that of their own party, whom they seemed to espouse with zeal, though secretly they sought their overthrow to enrich themselves. This is evident, as very few of the protector’s family, or that of *Fairfaxes*, but what were as great sufferers as any of the royal party. Indeed, except in a few, the leaders seem to have been engaged by disgust or ambition, or some sinister inducement. From these causes the country was undone by the ravage one side or both made: and all this not so much for respect to merit or title, as for pique and revenge, and a fondness to shew their parts, and thereby raise themselves on the ruin of others.’

‘ The



'The names and armorial bearings of sundry noble and worthy personages in the common-wealth, with some account of their families,' furnish nothing that we can extract with advantage: the author's ancestor, Edmund Prestwich, of London, is noticed among the rest. Oliver, our author remarks, divided the old families against each other, to govern the whole more easily, and many were destroyed in the contest. He thinks that it is a mistaken opinion, that the supporters of the common-wealth were of the lowest class, and the meanest families.

The death and funeral of Oliver are next described from a MS. of Mr. J. Prestwich, of All Soul's College. This gentleman was fully of opinion, that the protector was poisoned. The body was buried privately, and a gilded coffin honoured with the funeral decorations.\* The funeral ensigns of honour, belonging to Oliver, are described, and farther particulars relating to the ceremony, and the expences of the funeral, are subjoined.

The birth, marriage, and issue of Oliver, are pointed out at some length, and a list of the members of parliament, who sat in the year 1658, is afterwards added.

The constitution of England is, in our author's opinion, the true republican form, and he thinks that no law can give a better title to the supreme sovereignty than the general consent of those who are governed. His examination, however, of the constitution of England, degenerates into an antiquarian discussion, and concludes with an heraldic display of the style, title, and achievements of their present majesties.

An alphabetical roll of the names and armorial bearings of most of the present nobility, and ancient families of these kingdoms, together with those of Germany, France, and Spain, is begun in this volume, and to be finished in the second. Our author seems only to have concluded the letter A. The observations, however, which occur on this subject, must be deferred till the appearance of the second volume.

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*The Vision of Columbus: a Poem, in nine Books, by Joel Barlow, Esq. 12mo. 2s. in Boards. Dilly.*

**T**HE subject of this poem, in regard to the author's local situation, is well-chosen; the design grand and extensive, adapted for the display both of his descriptive and reflecting powers. The attempt is arduous, and, in general, he shews himself not unequal to it. The scenery and appearance of the hero, with which the first book opens, is solemn and interesting.

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\* His remains were privately interred in a small paddock, near Holborn, in that very spot over which the obelisk is placed in Red Lion Square. The Secret! John Prestwich.

' Long had the sage, the first who dared to brave  
 The unknown dangers of the western wave,  
 Who taught mankind where future empires lay  
 In these fair confines of descending day,  
 With cares o'erwhelm'd, in life's distressing gloom,  
 Wish'd from a thankless world a peaceful tomb ;  
 While kings and nations, envious of his name,  
 Enjoy'd his toils and triumph'd o'er his fame,  
 And gave the chief, from promised empire hurl'd,  
 Chains for a crown, a prison for a world.  
 Now night and silence held their lonely reign,  
 The half-orb'd moon declining to the main ;  
 Descending clouds, o'er varying ether driven,  
 Obscur'd the stars and shut the eye from heaven ;  
 Cold mists through opening grates the cell invade,  
 And deathlike terrors haunt the midnight shade ;  
 When from a visionary, short repose,  
 That raised new cares and tempered keener woes,  
 Columbus woke, and to the walls address'd  
 The deep-felt sorrows of his manly breast.'

After a characteristic and affecting speech of Columbus,

——— a thundering sound  
 Roll'd round the shuddering walls, and shook the ground ;  
 O'er all the dome, where solemn arches bend,  
 The roofs unfold and streams of light descend ;  
 The growing splendor fill'd the astonish'd room,  
 And gales ethereal breathed a glad perfume ;  
 Mild in the midst a radiant seraph shone,  
 Robed in the vestments of the rising sun ;  
 Tall rose his stature, youth's primeval grace  
 Moved o'er his limbs and brighten'd in his face.  
 His closing wings, in golden plumage drest,  
 With gentle sweep came folding o'er his breast,  
 His locks in rolling ringlets glittering hung,  
 And sounds melodious moved his heav'nly tongue.'

These lines are equally musical with the preceding, but have no great pretensions to originality. The angelic apparel, like an Asiatic's dress, or military uniform, seldom or never varies in poetic writ. The 'glad perfume, robes of splendor, golden plumage, grace of youth, glittering locks, and wings folding o'er the breast,' have decorated their appearance, or constituted their wardrobe, time immemorial. The last circumstance is not so common, though it may be found in the picturesque representation of Raphael in the 5th book of *Paradise Lost*, and which probably the author had in his eye when he composed the preceding passage. The idea is taken from the prophetic writings, and the description there given of an angelic being, we apprehend inferior to none in any language.



guage. We do not blame the author for treading in his predecessor's steps. It is a circumstance much easier to remark than alter. Particular images annexed to supernatural beings have gained possession of our minds, and to vary from them might appear unnatural or absurd. The idea in the first lines is well expressed; but though thunder and lightning are, according to Fielding, the proper paraphernalia of a ghost, yet neither of them seems a proper attendant on a celestial visitant, who appears for so benevolent a purpose as the present. The last line is obscure but might be easily altered.—The grand design of the poem now commences. The angel displays, in vision to Columbus, a view of the American continent; its principal mountains, rivers, lakes, &c. are described. The natives, their characteristic qualities, and supposed origin are investigated. The two great empires, Mexico and Peru, are particularly dwelt upon. An historical detail of the transactions in the latter, intermixed with some romantic fictions, supposed to have happened before the Spaniards subdued that country, is next given. The progress of the European settlements in the northern parts, and the nature of those colonial establishments, is delineated. This leads to the military transactions, particularly those in the late contest that have ravaged that quarter of the globe. Here, as it may naturally be supposed, the leaders of the continental army receive a large tribute of applause. The author too often blends ancient manners with those that are modern. 'Steuben's veteran armour,' the Britons advancing with 'lifted lance,' and Montgomery by his single prowess overthrowing 'hostile legions,' is not descriptive of modern warfare. The attributes of a romance here suit but badly with a general of the present time; and we think Washington must smile at seeing himself represented as mowing down whole armies like an Amadis or Orlando.

'Behind, great Washington his falchion drives,  
Thins the pale ranks, and copious vengeance gives\*.  
Hosts captive bow, and move behind his arm,  
And hosts before him wing the driven storm.'

The American's great ally in this poem, as in all others that have from the same quarter fallen under our inspection, is invested with the splendor of an Asiatic despot, and complimented with the spirit of an Hampden.

'Bright o'er the scenes of state a golden throne,  
Instarr'd with gems and hung with purple, shone.  
Great Louis there, the pride of monarchs, fate,  
And fleets and moving armies round him wait;  
O'er western shores extend his ardent eyes,  
Thro' glorious toils where struggling nations rise.'

\* To render this rhyme correct, the word should bear a very different meaning.



He expresses great zeal for the 'liberal universal cause,' is melted into tears for the oppressed Americans, and 'assumes his arms reluctant for the sake of peace.' This liberality of sentiment is doubtless highly laudable in an absolute monarch; and as his own people seem desirous of partaking the blessing of those inherent natural rights for which he has so generously contended abroad, how can he consistently refuse their reasonable requests? Should the reader suspect that Mr. Barlow may be a little mistaken in the principles he attributes to his Gallic majesty, and that his zeal for liberty may by this time be somewhat abated, he will, we trust, accord with us in praising the justice and spirit of the following encomium on one of our illustrious countrymen.

'High on the tallest deck majestic shone  
Great Raleigh, pointing tow'rd the western sun;  
His eye, bent forward, ardent and sublime,  
Seem'd piercing nature and evolving time;  
Beside him stood a globe, whose figures traced  
A future empire in each wilder'd waste;  
All former works of men behind him shone,  
Graved by his hand in ever-during stone;  
On his mild brow a various crown displays  
The hero's laurel and the scholar's bays.'

Several subsequent lines are equally animated, but some of them rather verge on the bombast. Mr. Barlow's general merit renders it excuseable. So daring a muse as his must sometimes be expected in her sublime flight to veil her head in the clouds. In justice to this gentleman we must observe, that, unlike a late American poet, he abstains from all illiberal abuse of the British army, and the generals who commanded it. As an American, indeed, he is partial to his countrymen, and we commend him for it. A certain degree of enthusiasm is laudable both in a patriot and a poet. We find likewise, in this performance, many philosophical disquisitions on the cause of the dissimilarity among nations; on the peopling of America; on the progress of arts and sciences; and the extensive influence which the discoveries of Columbus may have upon the interest and happiness of mankind. That subjects so extensive and arduous should not always be accurately investigated, that several faulty passages might be selected from a poem of such magnitude as the present, cannot be wondered at, and ought not to detract from its general merit. Mr. Barlow thinks with freedom, and expresses himself with spirit. The introduction, which contains the life of Columbus, is written in an agreeable easy manner: the dissertation on the genius and institutions of Manco Capac, in which the Peruvian legislator is compared

or contrasted with Moses, Lycurgus, Mahomet, and Peter of Russia, from its acuteness and perspicuity, reflects credit on the talents both of the hero and author of the essay.

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*A Course of Physico-Theological Lectures upon the State of the World, from the Creation to the Deluge. By Robert Miln, A. M. 8vo. 5s. in Boards. Faulder.*

**I**F it were designed to demonstrate the care of Providence as well as its wisdom from the arrangements of the universe, the various supports and assistance which man receives, and the wonderful structure of his organs, adapted either for the continuance of life, the preservation of the species, or even the gratification of the senses, physico-theology might be an useful study. But it would require extensive knowledge, acute penetration, and a sound judgment, to perceive what really exists, and not to convert blemishes into blessings, or to suppose wonderful order in what is the effect of accidental circumstances, or in arrangements which are the offsprings of the imagination. Mr. Ray's very excellent work is defective in some of these respects, not from *his* errors, but from the imperfect state of science at the period when he wrote. Mr. Miln does not examine every part of the subject: he chiefly confines himself to the philosophy of the Old Testament, the description of the creation, the fall and the deluge. In these accounts he is very unequal, and very inconsistent. He contends, for instance, for the philosophical accuracy of every part of the Mosaic account of the creation, and enlarges on his own explanations and the fancies of others, while in another place, where the motion of the sun is mentioned, he expressly tells us, that the scriptures are not designed to teach us philosophy. Again: while he supposes the account of the creation to be dictated by inspiration, and to be philosophically true, he, in another place, allows, that the design of Moses was chiefly to preserve the genealogy of the Israelites, and the connection of their different branches. Another inconsistency is, in the population of the antediluvian world: when it is necessary to explain the different connections, and to give some account of people spoken of, seemingly distinct from the family of Adam, in the earlier periods the population is represented to increase with rapidity: about the time of the deluge, when so few entered the ark with Noah, the population is supposed to be inconsiderable. In short, the author is engaged on uncertain and precarious ground; so that it is not surprising that he should sometimes slide, and sometimes sink: we rather wonder that, with much good sense, and no little share of information, he should have undertaken the task at all.



The first Lecture is on the book of Job : Mr. Miln supposes it to be written before the giving of the law from mount Sinai, because there is no allusion to the rites of Moses, the sojourning of the Israelites in Ægypt, or their peregrination through the wilderness. We have formerly read Homer with care, and recollect nothing of that kind in him ; and we really think it equally reasonable to suppose the Grecian ballads of the early age, which from that cause he would assign to Job. The distance of Arabia from Ægypt and Palæstine is not much greater than that of Greece, or at least of Ionia. It is more reprehensible in Mr. Miln. to draw serious arguments from the bold, the exuberant imagery of this valuable relic. ‘Where wast thou, when I laid the foundations of the earth, when the morning stars sang together, and all the sons of God shouted for joy ?’ This is a sublime and animated apostrophe ; and it is adduced by our author to show, that stars (literally stars) existed before the foundation of our world : we should not have been surprised if he had considered the sons of God in an equally literal sense. The substance of the book of Genesis is supposed to be revealed to Adam, and handed down to Moses.

It would be improper to consider the history of the creation as related by Moses, too minutely, nor are we willing to retail the sneers of infidels against it, because they are weak, idle, and ill-founded. There is one argument which must always have weight : if the Bible is not a strictly philosophical description of different appearances in every part, we are not obliged to consider it as such in any. If the history of the antediluvian ages is not a true account of what really happened, in its whole extent, there is no reason for thinking it any thing more than a connecting link, to give an union and consistency to the whole. That it is not an historical account, is evident from the tree of life, the tree of knowledge of good and evil, the serpent, &c. These are so plainly allegorical, so clearly descriptive of depraved inclinations, and of temptations in every age, that it seems never to have been designed but as a lesson to guard against the indulgence of sensual appetites. Even our author is more than once inclined to consider it as an allegory ; and he is stopped, seemingly, from one consideration alone. We shall transcribe the passage.

‘*I will put an enmity between thee and the woman, and between thy seed and her seed. It shall bruise thy head, and thou shalt bruise his heel.*’ It is very remarkable in these words, that the enmity was only to subsist between the serpent, and the woman with her seed. But had this history been an allegory, in which the serpent represents passion, what reason can be given, why there should be no opposition on the part of the man ? Was he to have



have no passions wherewith to contend, but to live as he listed, while the woman was only to be kept under restraint? This proves the history to be real, and not allegorical.

In this part the allegory is carried on with respect to the serpent somewhat literally; but no one could for a moment think that a real serpent was intended. The wicked one who was supposed to have suggested these thoughts, and to have urged the woman to disobedience, is considered as the rooted enemy to mankind, and to the woman in particular, for *she alone* disobeyed, in consequence of *his* advice. The opposition between them is pointed out as between a human being and a reptile; nor is there any reason to suppose, by referring to her seed, that there was any allusion to our Saviour. This is a far-fetched analogy, without any foundation, unless our Saviour was to have sprung immediately from Eve, without any intermediate descendant. The works of Moses are distinguished by their simplicity, their sublimity, and their eloquence; yet we cannot, with our author, so greatly admire his art, in comprising the history of 2000 years in a few short chapters, when we consider that the events are so few, that even his few pages are filled with evident allegory.

The second Lecture contains a particular account of the creation, according to Moses. Mr. Miln examines every day's work with care, and explains what may seem doubtful and uncertain. Indeed these points are laboured with so much accuracy as to render the whole frequently ridiculous. On this serious subject we would wish to avoid levity; but as we have given an opinion, we shall support it by a specimen.

'Some may wonder, why making the air should be the work of one whole day, especially as this seems to be no more than the effect of natural causes. But such should consider, that the firmament and clouds are objects of great magnitude in holy writing. In them the great Creator gives to mankind the most striking display of his majesty, power, and goodness, *He makes the clouds his pavillion, from whence he utters the voice of his excellency, at which the mountains are moved out of their places, and the pillars of the earth do tremble.* By them he *watereth and refresheth the earth*; and makes it a nursing mother for the various tribes of its inhabitants. He useth the clouds not only for mercy, but for correction; and by them *turns a fruitful land into barrenness for the wickedness of them that dwell therein.* When the psalmist calls upon all nature to celebrate the praises of its Creator, he thus begins, *Praise ye the Lord from the heavens, praise him in the heights.*'

Does this argument amount to any thing more than that what the Hebrew poets employed frequently in their imagery, was of great importance in the eyes of an Hebrew historian?

That one work is more difficult than another to the Almighty is an impious supposition; and that much time was required to make what was afterwards to furnish such varied imagery, is one which we are ashamed to suggest even after our author, and still more ashamed to dwell on. The following passage may perhaps excite a smile:

‘The manner of her (Eve’s) formation was different from that of her husband. He was made of *rude* dust, but she of *dust* already dignified and refined; which accounts for the superior delicacy of the female sex.’

There are many similar passages, which we shall not swell our article by enlarging on: there are many which might furnish subject for ridicule, if our respect for the author and his subject did not check our pen. If Mr. Miln had not voluntarily put on the fetters, he would not have excited our attention by his mode of walking in them: we must repeat, that he is well acquainted with philosophy, and with the labours of commentators on the Bible.

The third Lecture is on the wisdom and goodness of God in the creation. It shows the piety and the goodness of the author’s heart in a strong light. His instances of God’s goodness are not, however, correctly explained. He speaks of our planet’s possessing a favourite place in the system, without reflecting that he ought to have considered the wisdom of God in adjusting the various constitutions of the inhabitants of the different planets to their situations. We might undoubtedly been made capable of bearing the heat of Mercury, or the cold of the Herschel with equal ease; or either planet might be constituted so as to fit constitutions like our’s.

The fourth Lecture is on the state of man in paradise. The garden of Eden is supposed to have been situated somewhere above the Persian gulf, on the banks of the Euphrates. He describes the situation of Adam, according to the account of Moses. Though the circumstances are considered too literally, yet there are many judicious thoughts and just reflections interspersed in this Lecture.

The following essay is on the fall, and the sixth on the consequences of the fall. The curse on the ground mentioned by Moses, our author supposes may be explained from a destruction of its fertility, in consequence of volcanos; and the flaming sword of the cherubim at the east end of the garden, to signify a natural conflagration of that portion of the globe. These explanations may probably be just; but they certainly are founded on an imaginary basis. The effect of the fire turning that portion of ground into sea, is probably more so. Mr. Miln’s observation on the sin of Adam being transferred to his posterity



posterity we shall not select, because he seems to leave the question undecided, whether the guilt really remains.

The seventh Lecture is on the state of the world after the fall: but much of this is uncertain, since Moses, with an anxious rapidity, hastens to his principal object. He soon leaves the posterity of Cain, and pursues with care that of Seth. Yet even here our author will step out of his way to debase his subject; for when he quotes the passage of Abel's being a keeper of sheep, and Cain a tiller of the ground, it shews, as he says, that the former was a more honourable employment, otherwise *the elder brother would not have made choice of it*: it was perhaps more essentially necessary to preserve life, and therefore the first object of employment. Mr. Miln's remark reminds us of an observation on one of St. Paul's Epistles, where he mentions a relation by marriage. It was sagely observed, that it was no wonder St. Paul's relations were married well, since their husbands might expect to rise in the church. This Lecture contains, however, some just remarks on the patriarchal religion, sacrifices, and the banishment of Cain.

From the subsequent Lecture on the family of Cain and Seth, as well as on the longevity of the patriarchs, we shall extract a specimen of Mr. Miln's abilities in sacred criticism: it is an ingenious and probable explanation.

'We are next presented with a speech of Lamech to Adah and Zillah. *Hear my voice, ye wives of Lamech: hearken unto my speech: for I have slain a man to my wounding, and a young man to my hurt. If Cain shall be avenged seven fold, then Lamech seventy and seven fold.* These words are some ancient fragment of a history, and have no connection with what goes before or follows after. Therefore it is impossible to say on what occasion, or for what purpose they were spoken.

'The Jews had a foolish conceit that Lamech slew Cain. But had this been the case, how could he have said, that he had slain a young man, for by this time Cain must have been greatly advanced in years? Besides, instead of being punished, he says that he should be avenged, i. e. others would be punished far more severely for killing him, than if they had killed Cain. The most rational conjecture about the intent of Lamech's declaration is this: the murder of Abel had for a long time occasioned an animosity between the descendents of Seth and Cain, which had made the latter build a city, that his children might live near together, and be able more easily to unite for the common safety. And it happening that Adah and Zillah, upon hearing some alarming news, acquainted their husband of the great danger he was in. When Lamech, to compose their minds and banish their fears, made unto them the following speech, which should begin with a question, and then may be thus paraphrased. Why should we make our lives un-



easy with these groundless suspicions? And what have I done that I should be afraid? Have I slain a man, young or old, or offered violence to our brethren of the other family? and surely reason must teach them, that they have no right to invade or hurt me. Cain indeed killed his younger brother Abel, but God was pleased so far to forgive his sin, as to threaten to take the severest vengeance on any one that should kill him: and if so, surely they must meet with a greater punishment, who shall presume to kill me, or any of my innocent family. For if Cain shall be avenged seven fold, truly Lamech seventy and seven fold. And probably by discourses of this kind, and other arts which he made use of, he so far overcame the fears and shyness of the whole of his family, that thereafter, they ventured to commence an acquaintance with the rest of their brethren, till at last both became equally corrupted; which provoked God to inflict an awful punishment upon the whole.

The subsequent Lectures are on the depravity of the antediluvians, and the deluge. The deluge, in our author's opinion, was partial only, as there was not water enough to render it general. But we know not with sufficient accuracy the state of the Antediluvian world to decide on this subject. The mountains are very probably of a subsequent date; and the great density of our globe, at present, may have originated from its being deprived of water in the central parts, in consequence of that change. The whole is uncertain, and must remain so; but unless we believe the deluge to be universal, we cannot reconcile the positive decisions of the Almighty with the subsequent events: and, if it was so, it is no less difficult to understand how all the species were preserved in any vessel. Who brought the rattle-snake, the anacondo of Ceylon, the hippopotamus, the lion, or the hyæna, into the ark? or who preserved the lamb from the wolf, or the kid from the lion? The whole must be resolved into a miracle, scarcely short of creation.

The execution of these remaining Lectures is not greatly superior to that of the former ones. The minuteness of our author's descriptions lead him into some disadvantageous details, and his anxiety to reconcile the scripture-history to our philosophy and our conceptions, is seldom recompensed by success. We find him often in labyrinths, from which he cannot escape with ease, and for which purpose we cannot furnish a clue.

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*Essays on the Microscope. By George Adams, Mathematical Instrument Maker to his Majesty. 4to. 11. 6s. in Boards. Adams.*

**I**N pursuance of his plan, to give an account of the different instruments subservient to philosophical enquiries, Mr. Adams takes up the microscope, and gives us a very satisfactory

tory description of the construction of this instrument in its different forms, and some entertaining disquisitions on those subjects which it is employed to illustrate. In his *Essay on Electricity*, a science of experiment, the explanation of the use of different instruments, as we observed in our review of that work,† comprehended almost the whole of what was known. The microscope is an assistant of a different kind; and it was not easy to steer between a dry mechanical description, and a diffuse account of different objects remotely connected with it. Mr. Adams's *Essays* may, to many, appear a patch-work of discordant materials from different authors, till they reflect that they are in some measure necessary to the author's original purpose; and that they furnish a varied and a pleasing entertainment. If we examine the work with a critical rigour, we shall perhaps find in it too many details which have little connection with the microscope, and with which the generality of readers are sufficiently acquainted: probably the author wished to form an entertaining volume, though at the expence of a little uniformity of design. The reader, however, who is tired in turning over these leaves, must have little curiosity; or if he finds only what he knew before, must possess extensive and extraordinary knowledge. We shall examine the contents of Mr. Adams's work more particularly.

The invention of the microscope, and the use of simple lenses, first employs our author's attention. Every philosopher knows the great power of the small globules of melted glass, as magnifiers; and every experienced observer has at times felt the inconveniencies, and been led away by the misrepresentations of compound instruments. Mr. Adams particularly explains the method of melting glass, in order to imitate the spherules of P. Torre with success. He afterwards goes on to the more complicated microscopes, and describes Culpepper's microscope; the common solar microscope; that for opake objects; the instruments invented for particular purposes, by Wilson, Withering, Lyonet, and Ellis: the microscope peculiarly adapted for botanists; the telescopic microscope; his own lucernal microscope; and Cuff's double-constructed one. The solar microscope is undoubtedly the best adapted for amusement; that which magnifies the surface of opake objects, is a beautiful and useful invention. Mr. Adams's lucernal microscope is admirably adapted for viewing objects, and for drawing; while the double microscope, with the usual additions, is well fitted for almost every purpose, and may be made subservient to observations of every kind, as well as to amusement. The philosopher, however, the cautious enquirer should

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† See Crit. Rev. Vol. lvii. page: 31.



scarcely trust more than to a single lens. For increasing the light, in viewing either minute objects or very dense ones, we are surprised that no advantage has been taken of that brilliant spectrum, produced by transmitting the light of the sun through a globe of water. The force of light is particularly conspicuous in the solar microscope, and leaf-gold alone resists it; for a little blue light is only to be observed on the edges of the minute holes, which the irregularity of the hammer's action leaves. The author teaches us also the use of microscopes, the preparation of the objects, the action of these instruments, and the method of estimating their magnifying powers. On all these subjects his explanations are very clear, but sometimes too minute, particularly in describing the similar part of different instruments under the different heads.

Every writer on microscopes has given descriptions of the different insects discovered by means of their instrument. But, as Mr. Adams justly observes, entomology has been lately cultivated with so much zeal and success, that many errors, and more imperfections, are to be discovered in the works of his predecessors. He collects accounts of the œconomy of these little beings, which we often discover only by their depredations, and treats at some length of their metamorphoses, generation, respiration, food, and dwellings. He has generally copied from actual observers, and writers of well-founded reputation: but while this part of his work can be considered as little more than a compilation, we must decline either analyzing or transcribing from it; the facts are, however, very generally curious and entertaining.

The account of the anatomical structure of the caterpillar, which is found in the trunk of the willow, is chiefly taken from Mr. Lyonet. In the same chapter is a description of the barnacle, of the proboscis of a bee, of the wings and eyes of insects, in which he improperly observes, that the wings are of a *talcky nature*; of the *leucospis dorigera* of Fabricius, a new genus discovered since the last edition of Linnæus's System of Nature; of the lobster insect, probably a new species, not unlike a louse; and of another insect which Mr. Adams tells us is called by Linnæus *trips*; but we can neither find the name nor the description in the *Systema Naturæ*. The scales of fish, the skin of the lump fish, the *chrysomela asparagi*; a species of *noturus* of Fabricius, are also described in this miscellaneous chapter. Many parts of it are indeed new; but they are so intimately connected with the plates, that we do not find it easy to select any description, though the following one may be curious, and to the intelligent entomologist may be easily understood.

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‘ When Mr. Marsham first saw it at Richmond, he considered it as an undescribed insect, and an unique in this country; but he has since found that it is mentioned by Fabricius, in his *Systema Entomologiæ*, as a new genus, under the name of *leucospis dorfigera*; and there is one of the insects in the cabinet of the celebrated Linnæus, now in the possession of J. E. Smith, M. D. F. R. S. Sulz, and other writers, have also described it.

‘ It appears at first sight like a wasp, to which genus the folded wings would have given it a place, had not the remarkable sting, or tube, on the back, removed it from thence. It is probably a species between, and uniting the sphex and wasp, in some degree partaking of the characters of both. The antennæ are black and cylindrical, increasing in thickness towards the extremity; the joint nearest the head is yellow, the head is black, the thorax is also black, and encompassed round with a yellow line, and furnished with a cross one of the same colour, near the head. The scutellum is yellow, the abdomen black, with two yellow bands, and a spot of the same colour on each side, between the bands. A deep black polished groove extends down the back from the thorax to the anus, into which the sting turns, and is deposited, leaving the anus very circular; a yellow line runs on each side the sting. The anus, and the whole body, when viewed with a shallow magnifier, appear punctuated; these points, when examined in the microscope, appear hexagonal, as in the plate; and in the centre of each hexagon a small hair is to be seen; the feet are yellow, the hinder thighs very thick and toothed, and also form a groove for the next joint; they are yellow, with black spots. It is found in Italy, Switzerland, France, and Germany.’

In the following chapter is a very correct and extensive description of the form and the manners of the fresh-water polypus. It is collected, like the rest of this work, from the best sources; but as the natural history of this insect has been the subject of much enquiry, we cannot extract any thing from this chapter sufficiently new to be interesting.

Mr. Adams then proceeds to describe those animals which are observed in infusions of different substances: the following general account of their appearances may be amusing to those who have never observed these diminutive animals.

‘ It has been long known, that if seeds, herbs, or other vegetable substances, are infused in water, the water will soon be filled with an indefinite number of little animals. We find them, in general, moving in all directions with equal ease and rapidity, sometimes obliquely, sometimes straight forwards, at other times circularly, one while rolling and turning round, and then running backwards and forwards through the whole dimensions of the drop, as if in sport; at other times attacking  
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with avidity the little heaps of matter they meet with in their way. They know how to avoid with dexterity any obstacles that would interrupt their motion, and even to avoid one another; you may see hundreds in motion in a drop of water, that never strike against each other; sometimes they will suddenly change the direction in which they are moving, and take one diametrically opposite thereto. By inclining the glass on which the drop of water is laid, it may be made to move in any direction; the animalcula in the drop will swim as easily against the stream as with it.

If the water begins to evaporate, and the drop to grow smaller, they flock impetuously towards the remaining fluid; an anxious desire of attaining this momentary respite of life is very visible, as well as an uncommon agitation of the organs by which they imbibe the water. These motions grow languid as the water fails, till they at last cease. If they are left dry for a little time, it is impossible to re-animate them by giving them fresh water.

Animalcula and insects will support a great degree of cold, but both one and the other perish when it is carried beyond a certain point. The same degree of heat that destroys the existence of insects, is fatal to animalcula; as there are animalcula produced in water at the freezing point, so there are insects which live in snow.

Mr. Adams attacks the vegetative power, and the organic molecules of Messrs. Needham and Buffon.—He shews that these atoms are really animals, and describes their manners, the modes of their increase, and even their fins, from Mr. Ellis. In some parts of this detail, we fear the imagination has added circumstances, and imposed on the eyes: we own that we are suspicious of minute microscopical observations. Lewenhoeck, Buffon, Linnæus, and Monro, have been, in more than one instance, deceived. But the existence and the general form of these animals are sufficiently established; so that it is not improper to add a description of the various individuals; and, in this respect, Mr. Adams follows the arrangement of O. F. Müller. After each definition, observations on its appearance and origin follow: those on the vorticella rotatoria are very curious.

The ninth chapter is on the organization and construction of timber, as viewed by the microscope. Our author's instructors, in this branch, are chiefly M. du Hamel, and sir John Hill, though he owes somewhat also to Dr. Grew. Du Hamel's work, the *Physiques des Arbres*, is not so well known as it deserves; and the observations collected from this naturalist are very valuable.

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The appearance of the crystals of salts is the last object of our author's attention. He seems, in his explanation of crystallization, to consider the water of crystallization to be essential to the form of the crystal; but for this opinion there seems to be no very good foundation. The water appears to be mechanically intangled in the salts; and, instead of its escape destroying the crystal, it appears to escape, because the crystal is destroyed. In explaining these phenomena, however, if we allow a polarity in the small particles of the salt, we must necessarily admit of two poles; for attraction alone is not sufficient, unless we add to their properties an *elective* attraction, which probably does not take place, without some degree of repulsion.—A list of the objects proper for the microscope follow, that observers, as our author remarks, may not be contented alone with the few objects, which are generally sold with the instrument, and consider it as a spectacle which is begun and finished with a display of this limited scene. Indeed, his whole work is better adapted to prevent views so confined: by rousing the mind, and inducing the observer to look through every part of nature, he can alone prevent the microscope from becoming the plaything of children of a larger size.

The volume is illustrated by above thirty\* plates, of rather unequal merit. The best are executed, as the French term it, *en noir*, in imitation of drawings with Indian ink, with great accuracy and beauty: even the inferior ones are clear and expressive. The frontispiece is extremely beautiful: the light, proceeding from a fine figure of Truth, with one or two little exceptions only, is managed with singular skill. The engravings not only represent the different kinds of microscopes, but a great variety of different objects magnified.

Though, in our examination of these essays, we have found much to praise, yet we must not indulge ourselves in indiscriminate panegyric, the refuge of indolence, and a careless examination. We think, that he has omitted to describe a very curious, and, in the physiology of vegetation, an interesting scene, viz. the appearance of the pollen, in hot water, the bursting of the elastic covering of each grain, and the escape of the smaller atoms, the true farina. There are other omissions in the vegetable part, at least of equal if not superior importance, to many things which are admitted; particularly the late discoveries of Hedwig, relating to the parts of fructification of mosses and mushrooms.

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\* The number is thirty-one, but some of them are repeated under the same title.



The essays are sometimes enlivened, as Mr. Adams will probably call it, by poetical quotations, and occasionally by prose run mad. This method is displeasing to a philosopher: it breaks the chain of his reflections, and leads to the mortifying reflection, that philosophy is not supposed to be sufficiently interesting without these meretricious ornaments. We cannot compliment Mr. Adams on his taste in the selection of his adventitious decorations: some of them, like the jewels in the nose of an Indian, only shew how much deformity may be increased by misplaced finery. Mr. Adams's language is neat, but often philosophically incorrect. The references to the plates are, in some instances, faulty. Though these errors detract a little from the merit of the work, and the pleasure of the reader, yet, on the whole, this performance is a very respectable one. In another edition, we would recommend a particular list of the plates to be added, since it is not easy, if we look at the engravings only, to find what they are intended to represent.—Our author's next work, in this department of science, will be *Astronomical and Geographical Essays*.

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*A Tour through the Islands of Scotland, and the Hebride Isles, in 1786. By John Knox. 8vo. 6s. in Boards. Walter.*

IT appears that the plan of improving the fisheries in Scotland has much engaged Mr. Knox's attention for several years; and to promote this end, he has repeatedly written and published addresses to the gentlemen of that country, and the public; which, with some observations on the antiquities of Scotland, are prefixed to the narrative of the tour.

On examining this work, we find it to be an enlargement of a pamphlet published in 1784, under the title of 'A View of the British Empire, &c.' and of which we gave an account in our fifty-eighth volume.

The volume begins with a short account of the author's journey from London to Edinburgh, and thence to Oban, in Argyleshire; after which he gives a general description of the West Highlands and Hebride Isles, between Oban and Cape Wrath, in the northern parts of Scotland. Oban, he observes, is formed by nature, and by a combination of favourable circumstances, for being a principal harbour, and a central mart for the South Highlands, and the numerous islands near that coast. Here likewise he thinks that a royal dock and an arsenal would be extremely advantageous to the nation.

The next place which claims particular attention from this traveller, is the island of Lismore, above seven miles in length by one in breadth, and containing fifteen hundred inhabitants. Here, as at Oban, he proposes that a town should be built for the

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the accommodation of fishermen; and two of the same kind at proper distances in Mull; a large island, and conveniently situated for trade and navigation.

Dr. Johnson has told us, that a dinner in the western islands differs very little from a dinner in England, except that in the place of tarts there are always different preparations of milk: and that their suppers are like their dinners, various and plentiful. Mr. Knox remarks on this description, that the doctor forgets the great variety of wild fowl and fish at the tables of the islanders, which no people in England, except those of the first fortunes, can command; and even few of those can procure such variety in equal perfection.

The following is given as the bill of fare of a Highland breakfast.

'A dram of whiskey, gin, rum, or brandy, plain, or infused with berries that grow among the heath.

'French rolls; oat and barley bread.

'Tea and coffee; honey in the comb; red and black currant jellies; marmalade, conserves, and excellent cream.

'Fine flavoured butter, fresh and salted; Cheshire and Highland cheese, the last very indifferent.

'A plateful of very fresh eggs.

'Fresh and salted herrings broiled.

'Ditto haddocks and whittings, the skin being taken off.

'Cold round of venison, beef and mutton hams.

'Besides these articles, which are commonly placed on the table at once, there are generally cold beef and moor-fowl to those who chuse to call for them. After breakfast the men amuse themselves with the gun, fishing, or sailing, till the evening, when they dine, which meal serves, with some families for supper.'

Great Loch Broom has in all ages been celebrated for its herring fisheries, and is consequently the grand resort of the busses from the towns on the Clyde, at the distance of two hundred miles or upwards. Whatever be the cause, the arrival of the herrings is said to be more certain here than in any other part of the kingdom. Till of late, they were remarkable for their large size, as well as their richness and flavour. Their richness, we are informed, continues the same; but their size is diminished from five hundred to eight or nine hundred for each barrel.

Mr. Knox tells us, it has been observed by the oldest men now living, that the shoals of herrings do not frequent the coast of Sutherland with that regularity and constancy which is perceived on the shores of Ross-shire. But though this uncertainty of the herrings furnishes a discouraging circumstance against a fishing station, the cod and ling fishery is invariable



to those who can venture a considerable way in the open sea, where the fish are large and inexhaustible ; and the great fishery off the south coast of Iceland, to which there is an open sea, and no interruption whatever, is yet more important. The subsequent extract affords strong reasons for erecting a town in this quarter.

‘ Vessels which frequent that fishery from Holland and other parts, generally allow one month upon an average, for the outward bound passage ; but if a town was established at Loch Laxford, or Loch Inchard, the vessels from thence could run over with any wind, in three or four days. Other vessels have to navigate the dangerous passage of the Pentland Firth, or the channel between the Orkney and the Shetland islands ; but between Cape Wrath and Iceland there are no lands, no interruption to the progress of the vessels through the night as well as the day.

‘ Shipping from other parts, who have long outward and homeward voyages, generally chuse the longest day, which happens not to be the best season for cod : that fish is in its highest perfection between November and April, or the beginning of May at farthest : a circumstance which may throw the Iceland fishery almost entirely into the hands of the north-west inhabitants of Scotland, and particularly those upon lord Rae’s estate. The very oil extracted from fish taken in the Iceland seas might enrich the whole coast in a few years.

‘ But there is an argument in reserve, that supercedes all other considerations, and points out in the most forcible manner, the expediency of a town near Cape Wrath, even admitting that no fishery could be carried on from these shores, or near them.

‘ The distance between Loch Inchard and Cape Wrath, and from thence to Loch Eribol on the north sea, is above twenty miles. In this long track, which to navigate requires different winds, there is no place where a vessel can safely anchor in rough weather, or where she can receive the smallest assistance to repair any damage she may have received in her voyage. The coast to Cape Wrath is composed of a perpendicular line of rock from 100 to 250 feet high, against which the sea breaks with inconceivable violence, throwing its spray sometimes over the summits, to a considerable distance upon the lands.

‘ On the east side of the Cape the shore is exactly similar, excepting the opening at Durness, which being mostly dry land at low water, no vessels approach it unless driven thither by stress of weather, when they are instantly stranded or broke to pieces.

‘ The effects of this inhospitable shore, which denies either an asylum or a supply to the sinking vessel, falls heavy, as formerly observed, upon the commerce of these kingdoms, besides the number of men who die through cold and fatigue, or who go down with the ship to the bottom of the ocean. A town  
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therefore, at either of the above-mentioned places, would prove a most desirable boon to the shipping of all the European nations, and particularly to those of Great-Britain and Ireland. Here able ship-carpenters might be accommodated with a graving dock, and furnished with all manner of materials for the immediate repair of such vessels as were forced thither through leaks, dent, rough weather, or contrary winds.

Mr. Knox informs us, that in different parts of his journey he expressed a wish to sleep in the room which had been occupied by Dr. Johnson. What beneficial effect he experienced from this nocturnal gratification we are not told, nor does it appear from his narrative. He seems to have been at great pains in examining the western coast of Scotland in particular: he points out several places where, he thinks, towns might be built with great advantage, towards promoting the fisheries; and for his exertions in endeavouring to excite the public attention to this important object, he is entitled to commendation.

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*Select Beauties of Ancient English Poetry; with Remarks by Henry Headley, A. B. 2 vols. 12mo. 8s. sewed. Cadell.*

FROM a period considerably earlier than the reign of queen Elizabeth, to the conclusion of the last century, this nation has produced a race of poets, whose works, though now neglected and forgotten, were once the delight and admiration of the age in which they lived. Some of these have soared to the heights of the epic and dramatic muse: some have undertaken to illustrate the annals of their country; and have beautified the plainness of historical narration with the graces and ornaments of poetry: some have sent their fancies to wander in the fairy regions of allegory, have embodied the virtues and vices, the passions and affections of man, and dressed them out with all the charms of fiction. Some transport us into the calmness and repose of rural scenery; and entertain us with the artless loves of shepherds: while others, on the contrary, have introduced us to the refined gallantries and politeness of courts. Some elevate our minds to the noblest sentiments of heroism and valour; and others soothe and subdue us by the tenderest feelings of humanity. By a fate, however, not uncommon, they have sunk into neglect: and the original editions are now become so scarce, that few have an opportunity of consulting them. An attempt, therefore, to restore these writings to general notice, by the means of a republication, is certainly useful and commendable; since it not only tends to gratify curiosity, but to strengthen and improve the

public taste, by enlarging the sphere of intelligence, and by presenting to its view an additional supply of objects which at once contribute to enrich the imagination, and to soften the heart.

But though such, in some respects, have been the characteristic excellencies of the writers we have mentioned, their faults, on the contrary, have been so numerous, as greatly to overbalance them. In order to arrive at their beauties, it is necessary to toil through whole pages, which are not only dry and insipid, but even disgusting to the more correct taste of modern readers. In this account, a collection from the several poets, in which the best parts of each may be brought forward immediately to view, and what is uninteresting or disagreeable may be suppressed, seems better adapted to the purposes of general entertainment than an entire new edition of their works.

These are some of the arguments which appear to have influenced Mr. Headley in the volumes now submitted to our consideration. Let us hear his own words on the subject:

‘Selections expressly of beauties, from modern books of credit, unless immediately intended for the use of schools, are in a great degree, idle and impertinent, and do but multiply books to no good end; by anticipating him, they deprive the reader of that pleasure which every one feels, and of that right which every one is entitled to, of judging for himself: but in obscure literature of a more remote period, the contents of which are strangely unequal, even where it is the wish of the editor to exhibit them entire, it is safer, previously to allure curiosity by select specimens of prominent excellence, than to run the risque of suppressing it totally by an indiscriminate and bulky republication of the whole; for it not unfrequently happens, on the first inspection of such works, in which the beauties bear no proportion to the defects, that by an unlucky sort of perverseness the reader is confronted with a dull passage, or perhaps a series of them, the volume is instantly laid aside, and with it every intention of a re-examination. In such cases, therefore, and in such only, selections seem eminently of use; and were it possible to obtain the opinions of the forgotten authors in question, there can be little doubt of their acquiescing in a revival of their works, however partial, rather than meet the horrors of perpetual oblivion.’

These authors have found an able advocate in Mr. Headley, and we do not think, if it were possible, as he says, to obtain their opinions, that they would regret having their cause committed to such hands. The arguments which he himself has used in their behalf, as well as what he has given us in their own words, are of such a nature as will probably insure them

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a favourable decision from their judges. We will, however, examine this work more particularly, and shall give our opinions on the several parts, as they have struck us in reading them.

The Preface is chiefly employed in explaining the editor's design and method of proceeding in the present selection, and in giving an account of other similar publications which have appeared.

In the Introduction, which employs twenty pages, Mr. Headley has entered largely into the merits of the ancient and modern English poets. To those who have derived their poetical principles from the school of Pope; and who naturally retain a veneration for their master, he will perhaps appear in this comparison, to have leaned with too great partiality to the side of the former.

Perhaps, the example of Pope has produced an effect on our poetry, similar to that of Titian in the province of painting. Both were men of undoubted genius, and both possessed the higher excellencies of their art in an eminent degree: but their followers, who had neither so much imagination nor judgment, were captivated with that softness and harmony of colouring, which strikes the observer at first sight; and without giving themselves time to distinguish nobler beauties, made that the immediate object of their pursuit, which is at best but a secondary qualification. The taste, however, of the age is at length gradually recovering itself from this extreme of vicious refinement. The labours of some of the first friends of literature (among whom it would be unjust to omit the author of the History of English Poetry), have been successfully exerted in restoring the grander and more simple style of Spenser and Milton. In promoting this reform, the pieces now under consideration may not be without their advantage. Many of them abound with that strength and richness of imagery which mark the scenes of the Fairy Queen, and Paradise Lost: and others possess, severally, that manly warmth of sentiment, and that natural and affecting tenderness which distinguish the narratives of Shakspeare.

The biographical sketches, which follow next, are not the least valuable or entertaining part of this work. They contain a variety of pleasant remarks, much judicious criticism, and some curious anecdotes. For the latter, Mr. Headley has been assisted by Aubrey's MSS. preserved in the Ashmolean Museum at Oxford. The character of Aubrey has, we think, been vindicated by Mr. Warton, in the Preface to his very elegant and learned edition of Milton's Minor Poems.

The poetry in this first volume is divided under two heads, Descriptive and Pathetic Pieces. Among the former, we recognized, with pleasure, the Induction to the *Mirror for Magistrates*, by Sackville, which we have often read and admired as one of the sublimest pieces of English poetry. The translation of the first book of Marino's *Sospetto d' Herode*, by Crashaw, is in the same grand style. A new edition of the translation of Marino would be a valuable acquisition to the public. The selections from Drayton, Niccols, and Daniel, which rank under the last head, are written with a simple and affecting sweetness, that must interest every reader of feeling.

The second volume is divided into five heads; consisting of Didactic and Moral Pieces, Elegies and Epitaphs, Miscellaneous Pieces, Sonnets, and Speeches. The first of these we think the least interesting of the whole selection. A moral sentiment introduced in the midst of imagery, or pathetic description, gives an air of seriousness and dignity to the whole; and is generally heard both with attention and pleasure: but when the poet openly professes that his sole object is to teach us, he has need of a more than ordinary power of insinuation, as well as elegance of address, to insure a favourable reception to his instructions. In this respect, therefore, the modern poets seem justly to claim the advantage. It cannot, however, be denied, that these pieces possess a simplicity which is often pleasing: if the reader does not always find poetry, he may expect to meet with good sense; and though he may not be delighted, he will scarcely fail to be improved.

Under all the other heads there are several specimens, which are beautiful of their kind. In particular, the Sonnets of Drummond are remarkable for a classical chasteness and purity, not usually found in the poets of the last century.

We submit it to Mr. Headley's consideration, whether his plan would not have been more regular, if, instead of classing the pieces under different heads, he had printed them in their chronological order, after the manner of the *Muse's Library*?

The poetry is in general well chosen. The editor has sometimes, perhaps, as he says, 'listened to the captivating whispers of mercy, instead of the cool dictates of unsentimental criticism;' but, in the few instances which occur, we are not averse to granting this indulgence to his philanthropy. Among the pieces of this selection we have sought in vain for the names of Fairfax, Suckling, Randolph, and some others, whom we should have expected to meet with. We were, in particular, much disappointed at finding no specimen from Stephen Hawes, who certainly deserved a place here, not only



only for the early date of his poetry, but for that pleasing simplicity which characterises the History of Graund Amour, and La Belle Pucelle.

At the end of the second volume are subjoined sixty pages of Notes, in which the learned reader will, we believe, find much amusement, and perhaps information. They display an extensive knowledge, and a very accurate observation of the older poets.

We find, from the editor's Preface, that he has materials for two additional volumes: and we hope it will not be long before he gratifies the public with them. Whenever he is disposed to do it, we believe he need not fear meeting with a welcome reception. He seems to lament that his situation has not been favourable to these pursuits. It is the happiness of few to wander unconfined through all the delights of a literary elysium, and to say with the shade of the ancient bard;

Nulli certa domus: lucis habitamus opacis,  
Riparumque toros, et prata recentia rivis,  
Incolimus.

We think, however, we are consulting the public utility when we say that we wish Mr. Headley every additional source of information that he can desire.

The present volumes come recommended by a very numerous and respectable list of subscribers; and are dedicated to Mr. Windham, Member for Norwich.

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*An Attempt to illustrate various important Passages in the Epistles, &c. of the New Testament, from our Lord's Prophecies of the Destruction of Jerusalem, and from some Prophecies of the Old Testament. By N. Nisbett, M. A. 8vo. 2s. 6d. Johnson.*

THE object of our very modest and intelligent Author is to show, that the expressions in different parts of the New Testament which apparently relate to the last day, in reality point out only the decline of the Jewish empire by the destruction of Jerusalem, and the extinction of the Jews as a nation. The chief passages which he examines are the xxivth chapter of St. Matthew, with the parallel ones in the other Evangelists; the two Epistles of Paul to the Thessalonians, and the 3d chapter of the Second Epistle of Peter. His position, he endeavours to prove, by a comparison of different parts of the Old Testament; where, in a bold and figurative phraseology, the prophets, in similar language, point out events near at hand, by the express observation of our Saviour and the different Apostles, who confine the completion of the prophe-

cies to the present generation; and by showing that, in their situation, prudence would suggest a cautious language, which their followers, from their other doctrines, and oral information, could not misunderstand.

The observations on the fifth chapter of the First Epistle to the converts of Thessalonica are, in some measure, the foundation of much of the reasoning; we shall consequently select it:

‘ I shall begin with the 5th chapter of the First Epistle, which, from its close connection with the conclusion of the former chapter, has generally been supposed to be a continuation of the subject of the general resurrection at the last day, of which the Apostle is there speaking, “ Of the times and the seasons, brethren, ye have no need that I write to you.” In answer to this representation, it might be observed, that the Apostle apparently concludes his former argument by adding, in the last verse, “ wherefore comfort one another with these words,” and this certainly deserves some attention, independent of any other consideration.

‘ Besides; if the times and the seasons relate to the time of the resurrection at the last day, the Apostle could not have said, that the Christians were not in darkness, that that day should overtake them as a thief; for I presume it will be allowed by all, that they were as much in darkness as to the time when it should take place, as the unbelieving Jews themselves; not to mention that it was a matter of mere curiosity, which the Apostle would hardly have indulged. I think this must appear to every attentive reader, to be an argument of some considerable weight against the common interpretation. But other evidence is not wanting, that the Apostle in this chapter has begun a new subject; or rather, that the conclusion of the former chapter was only an occasional digression from the main design of the epistle.

‘ The only way to ascertain the Apostle’s meaning, and of course to determine the sense of the ensuing context, is to examine in what sense the phrase, “ times and seasons,” is used by the sacred writers; for upon that the whole evidently depends.’

The texts quoted, in which this phrase occurs in the Old Testament, are the 20th, 21st, 39th, and 40th verses of the 2d chapter of Daniel, and the 25th verse of the 7th chapter, where it evidently alludes to changes merely political. Our author, however, goes on:

‘ There is one passage more, where this phrase is used, and that is in the New Testament, by our Saviour himself; and he evidently adopts the sense, as well as the expression of the prophet; for when his disciples asked him when he would restore the kingdom to Israel, without giving them a direct answer to their question, he replied: “ it is not for you to know the times and the seasons which the Father hath put in his own power.” As if he had said—“ You have no business to pry too curiously into



into the dispensation of Heaven, in producing those great revolutions which his wisdom may see fit to bring about; but to rest satisfied that they will take place in their proper time.

‘When, therefore, the Apostle uses the like phrase, probably, as in the case of our Lord, in answer to some query put to him, it is not likely that he should vary the established meaning of it, by referring it to the general resurrection, but applied it to that period when the Jewish constitution was to be abolished, and Jerusalem laid in ruins; especially if it is considered that this period was then very near at hand.’

But while we give full credit to Mr. Nisbett for his ability, we own that he has not brought conviction to our minds. The boldness of eastern metaphor is not applicable to the sober style of epistolary instruction; and the destruction of a city is too obscurely pointed out, by the coming of the Lord. We confess, that we should rather look for a solution of the difficulties in the different interpretation of the term *generation*; and we cannot think it inconsistent with the Apostle’s characters, to warn their converts to avoid evil, by the uncertain period of the duration of the world, or to urge them to persist in the faith, since their time of trial might not be long.—But we must take another opportunity of explaining our opinions on this subject.

The Man of Sin, Mr. Nisbett supposes to be some impostor of that time, and not to allude to the reputed successors of St. Peter. The remarks on Dr. M’Knight’s translation are not important: that author agrees with Mr. Nisbett in his interpretation of some passages; but others, he supposes, really allude to the last day.

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## FOREIGN LITERARY INTELLIGENCE.

**A**S it is some time since we resumed subjects of Natural Philosophy and History, the materials, in this department, have accumulated; but, if a little disadvantage arises from the lateness of some part of our information, it will be more than compensated by our being enabled to communicate it in a more connected order. Indeed, though we mention our lateness, it is a comparative term only; for we shall only step back a few months, except in some controverted subjects, while, in the usual course, it would have been styled early information, some years hence.

Our readers are acquainted with the splendid work of Mess. Marivertz and Goussier, entitled *Physique du Monde*. We have mentioned the successive publication of different parts of the fifth volume. The third part appeared very lately, and contains

their theory of fire, which, we are sorry to observe, is, in many respects, exceptionable. They think, that the æther, or the æthereal fluid, is the sole matter of fire; but that it produces heat only, when put in motion by the parts of bodies. 'We have found,' say they, 'that the state of bodies, when they are styled hot, depends on the intestine motion of their parts; and this motion can only be attributed to the action of a fluid, which pervades and agitates the smallest particles. Fire, which cannot then be the principle and cause of its motion, must be its consequence and necessary effect. We could not, therefore, till this time, form any idea of fire, if we would consider it as a distinct body, except as a body whose effects are perceived by its being exerted to action in consequence of friction, and the intensity of whose motion increases in proportion to the solidity of the body employed, and the force as well as the velocity of the frictions.'—This is the Newtonian system, which Newton doubted of, and which the chemistry of modern times has destroyed. The authors support it by numerous arguments, and attack their antagonists with much spirit, though without success.—The system is opposed even in their own country; and in a late publication of M. Reynier, on 'Fire, and some of its principal effects,' a very different opinion is maintained. 'All bodies,' says our author, 'contain fire, not as a fluid pervading them, but as a constituent part, and of course this portion of their substance cannot be accumulated without changing their forms. It is dilatable, and can change its dimensions, and, in its different motions, tends to restore an equilibrium, in which it equally presses, and is pressed on.' This system very much resembles M. de Luc's, which we shall examine at some length, in our next Number. M. Reynier, however, differs from him, in attributing all the operations of this fluid to its alternate dilatations and compressions. Heat, for instance, is only fire, dilated by any cause; and this principle is, in the work before us, extended so as to explain many of the phenomena of nature.

M. Reynier is not very successful in other branches of his philosophy. He has been long the antagonist of the systems of Bonnet and Spalanzani; and, in different essays, has attempted to shew that organized beings may be reproduced from soecundated seeds, without the concurrence of the sexes, and that these beings may be formed by the simple aggregation of organized matter. We now mention him, because he has very lately returned to the charge, and, in a very elaborate memoir, added different arguments and facts in support of his last position.

The facts which afford him the best assistance, in this last memoir, are the phenomena of the vegetable fly from the mushroom of mosses\*. There is a kind of mushroom, the *Clavaria Militaris*

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\* We use the terms *Mosses* for mossy grounds. Solway moss, and other similar grounds, have the same denomination.



ris of Linnæus, (Syst. Natur. Ed. Vindob. 725.) which grows only on the head of a dead insect, in the nymphe state. The phenomenon was first observed in the Caribbee islands, and a proper account of it, with a judicious explanation, was given by Dr. Watson, and sir John Hill; but the kind of mushroom was, in those climates, a different one. The vegetating fly of Europe was described in a letter from M. Muller to M. Buckner, inserted in many literary journals. M. Reynier describes this beautiful saffron-coloured mushroom very particularly, and insists that it always grows on insects, from which botanists tear it rudely, and without either examination or reflection. He has discovered many new sorts of this plant; and thinks not only that they grow on organized beings, but that their form is the consequence of the matters that produced them. This curious opinion is to be the subject of a subsequent memoir.

Having found two plants of this kind last autumn, he began to examine them, and distinctly saw, that each plant penetrated the hairy shell and the chrysalis, and burst these coverings in consequence of its expansion, at the same time. If we admit that every body proceeds from a germ, in this case we must suppose, says he, that the germ had penetrated the shell and the chrysalis, or had been taken into the insect's stomach, and passed with its fluid into that organ, previous to its metamorphosis. The first position, he thinks, falls of course; and the second, he endeavours to shew, is equally without foundation, as the action of the stomach, the great solvent powers of the gastric juices, must destroy the principle of life. The question is thus reduced to an absurdity; but the absurdity may, perhaps, be retorted. The facts are not well established: many botanists have found this mushroom on peat. De Lat found it on the surface of the cranium of a living bee; and Bruyset has made a similar observation. In America, it has indeed been found arising from the internal parts of the exuvie, but of exuvie so decayed, as to be permeable in many parts to the air; and those who have contemplated the simple arrangement of the stomach, and circulating system of insects, will smile at the solvent powers of the gastric juice, and the action of the organ which contains it. Our author, however, goes on: he shews how an insect must produce a vegetable, because the matter of vegetables and animals differ only in the former containing less fire than the latter; and the insect must lose much of its fire by putrefaction. We must, therefore, wonder that every dead Daphne is not changed into a laurel; or that yews, in our church-yards, are not as common as graves. The whole theory, of which our readers will probably wish for no farther specimen, is an elaborate explanation of Buffon's system of organized matter, where much use is made of the internal mould, and the meshes of M. Bonnet.

M. Reynier has not escaped without opposition, nor has he remained silent: to his antagonist M. Millin de Grandmaison,  
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of the academy of Orleans, we have yet seen no reply; but to another antagonist, on a collateral branch of a dispute on the same principles, he has addressed some remarks.—We must take this matter up a little higher. The same author published a memoir on the *marchantia polymorpha*\*, (L. Sp. Plant. 1603) in which he endeavours to show, that this kind of moss is reproduced from the cups, without the intervention of any impregnating farina from male flowers, since the cups were early and carefully separated from the parent, and every other plant. He did not long enjoy this partial triumph. The abbé P. an ecclesiastic of some rank, soon reproved him for his hasty conclusion, and for not reflecting that, in the instance he mentioned, the propagation was rather by means of a slip than by seed; that, from having examined one part only, he could not decide on the nature of other parts, which might be sexual; and that at best, if the fact contended for was really true of the *marchantia*, it would not greatly affect the general question, especially as the seeds of many cryptogamic plants had already been discovered. To these observations M. Reynier has just replied; but his great argument is directed against the general analogy of the propagation of plants, and his best support of this argument is the experiments of Spalanzani, which we have examined in our review of the translation of his two volumes. In the interval, between the reply and the rejoinder, a very sensible letter, addressed to M. de la Metherie, appeared in the *Journal de Physique*, in which this question is greatly elucidated. We shall only attend to those parts of it which relate to the present dispute. Schmiedel, the author observes, to whom we are indebted for an excellent work, entitled, *Icones Plantarum et Analyses Partium*, published in indifferent portions, at Norimberg, from the year 1747 to 1782, in folio, has explained the different organs of this species of *marchantia*, which are subservient to its increase.—The one is the little cup, which Reynier observed; and it contains minute globules, by no means sexual, which M. Schmiedel calls *granula vivipara*. The cups are in fact slips or suckers, as Reynier himself has suggested; and this able author has erred only in supposing them the only modes of propagation, for the *marchantia* has, besides these slips, male and female organs. They have both a similar appearance, that of an umbrella, or a head, on a foot-stalk. The borders of the heads of the male flowers are only waved, and those of the female divided into eight or ten rays. The former, examined with a good microscope, are porous; and these pores lead to small oval cavities, which the author calls polliniferous follicles, or the true antheræ. Under the rays of the latter is a little range of germs, by age changed into capsules, which, in-

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\* The trivial name *polymorpha* arises from its heads, at different times, assuming different forms; by which means botanists of credit have improperly multiplied the species of the *marchantia*.



stead of being free, as in other genera of mosses, are divided by a membrane which shelters them. This description is confirmed in every essential respect, by M. Hedwig; and, in his work, entitled *Theoria Generationis & Fructificationis Plantarum Cryptogamicarum*, a very excellent dissertation, which obtained the prize from the academy at Petersburg, for the year 1783, it is illustrated by splendid and accurate plates. Many other parts of the fructification are also described and delineated; but we could enlarge only on what was most essential to our present enquiry. Indeed we should have long since reviewed the whole work, if the necessity of constantly referring to the plates had not prevented us. We may add, however, to the other observations, that M. Hedwig not only discovered the seeds, but sowed them:—they produced plants, and figures are given of their appearance on their first expansion.

We have, in this detail, given the origin, and we suspect the termination, of this attack on the system of Bonnet, by a disciple of Buffon; an attack and a dispute, in themselves of no great importance; but which have led to facts and observations both new and curious, instructive and important.

Though we may anticipate our account of a future volume of the *Memoirs of the Society of Agriculture*, yet M. Bernard's remarks are too nearly connected with our present subject, to be omitted. They relate to the fig-tree, and the very singular operation named caprification. It was found that figs ripened imperfectly, and that their seeds were not fruitful, if a branch of the wild fig (*caprificus*) was not suspended over the tree. As the wild fig contained insects, it was supposed that these insects penetrated the fruit of the tree to which they were brought, and gave a more free admission to the air, and to the sun. Linnæus explained the operation, by supposing that the insects brought the farina from the wild fig, which contained male flowers only, to the domestic fig, which contained the female ones. From what Hasselquist saw, in Palestine, he seemed to doubt of this mode of fructification, and M. Bernard opposes it more decidedly. He could never find the insect in the cultivated fig; and, in reality, it appeared to leave the wild fig, after the stamina were mature, and their pollen dissipated: besides, he adds, what they may have brought on their wings must be rubbed away, in the little aperture, which they would form for themselves. At Malta, where there are seven or eight varieties of the domestic fig, this operation is only performed on these which ripen latest: the former are of a proper size, fine flavour, and in great abundance, without it; so that he thinks the caprification only hastens the ripening. But it probably does more: we must, however, follow M. Bernard.

He examined the parts of fructification of the fig; and he observes, if this examination be made previous to the ripening, that round the eye of the fig, and in the substance of its covering, may be seen triangular dentated leaves, pressed one against another;

another; and, under these leaves are the stamina, whose pollen is destined for the impregnation of the grains, which fill the rest of the fruit. These male organs are much more numerous in the wild fig than in the domestic; and the stamina are found to contain a yellow dust, which may be collected, when it is ripe. The wild figs, when ripe, are not succulent, and have no taste, though the grains are disposed in the same manner as in the other kind. The pith of the grain of the wild fruit serves as food to a species of the cynips, whose larva is white, till the moment of its transformation; and it is by an opening, in the direction of the pistil, that the insect penetrates the grain. From this account, which is in many respects new, it is probable that the insect is only communicated by accident to the domestic fig, and that the flowers of this genus are sometimes hermaphrodites. But the number of hermaphrodite flowers being fewer on the cultivated than on the wild fig, the seeds are fecundated more certainly and quickly by the caprification; and every botanist knows that, when the impregnation is completed, the flower soon withers; while, if by any accident it is delayed, it continues in bloom much longer. This view of the subject, therefore, explains very completely the reason why, in Malta, the caprification is practised on the late kind of figs, because it hastens the formation and maturity of the fruit.

Since we are now engaged in botanical researches, and, as we may not soon have an opportunity to give an extensive account, we shall add a short notice of a new work of the abbé Cavanilles, on the geranium: our readers may recollect his labours on the malvaceous plants, and the geranium is arranged very near to them, in a natural order. This genus of ornamental plants is a very numerous one: Tournefort knew about sixty species; the younger Burman, seventy-four; and even Murray, in the *Système Vegetabilium*, of 1784, could enumerate but eighty-two. M. Cavanilles has described one hundred and twenty-eight species. He has himself cultivated a great number. Almost all are engraved, and the plates are superior even to those of his former volumes. We may just observe, that our author divides the species of geranium, either as they have regular or irregular corollas: the former class contains, in general, the European species, whose leaves are most commonly opposite; the latter contains the greater part of the African species, whose leaves are more frequently alternate. This class contains seventy-one species, the other fifty-seven.

The abbé Poir<sup>\*</sup>et has favoured the world with some farther descriptions of the insects of Barbary, and we shall take this opportunity of continuing our account of his memoir.

The beetles are the next objects of his attention, and the first species described, is the *scarabæus marginatus*, *scutellatus*, *muticus*, *clypeo rhombeo*, *elytris connatis*, *punctatis glabris*, *lateralibus marginatis*. This insect is entirely black, and is not  
unlike



unlike the scarabeus hæmisphericus of Pallas, (*Icones Insectorum*, pl. vi. fig. 23.) yet it is smaller; its helmet almost smooth, with some other varieties. It inhabits sandy places, and digs a hole for its young under the dung of cows, where it lays its eggs, and covers the aperture with sand: the larvæ reside in this gloomy dungeon till they have undergone their different changes, and then escape from it by an oblique passage, which they dig for themselves.

Though it has been already described, the abbé speaks of the sacred beetle of the Egyptians, which they made the emblem of Neitha, or of their Minerva. It was supposed to be of both sexes, and to produce its young without any connection with the male: of course it was a proper emblem of that goddess, whom they styled the Creator. Ælian supposes it to be the emblem also of a soldier, since they had it engraved on their rings.—Our author, however, leaves the reveries of an antiquary, and speaks of it as a naturalist, who has sought it in its retreats a gloomy and disgusting throne for a divinity—under cow's dung.

This insect wanders on the sand till the moment when it is to provide for its young. He then becomes active and indefatigable. He hollows out a piece of dirt, deposits the eggs in it, and covers them with the dung, the food of the larvæ: this mass he rolls on the sand, till it increases to the size of a small orange. He is impatient till he has found a place to deposit this precious burthen; scarcely ever quitting it, he sometimes draws it with his hinder legs, and sometimes pushes it forward with his head. If it is taken from him, he is violently agitated; searches with eagerness on every side, and never leaves the person whom he discovers to be the robber. When this ball is sufficiently dry, he digs a hole in the sand of eight or ten inches deep, and there lays his future offspring. He accompanies them to their retreat, and finishes there his own existence. The larvæ appear towards the end of autumn, and live in their cave till the spring, when they become perfect insects, though sometimes the insects are met in the winter with the larvæ; and it is not easy to say, whether they belong to the family of that, or of the former year.

The only spider mentioned in the continuation of the memoir now before us, is the *aranea fasciata*, abdomine fasciis flavescens, pedibus fusco annulatis. The abbé supposes it to be the same which Fabricius has described from the museum of sir Joseph Banks. (*System. Entomologiæ*, p. 433. 11.)—The difference is only in the manner in which the eyes seem to be disposed.—This spider arrives at its greatest bulk in July: it is then as large as the thumb. It inhabits hedges and thickets: its webs have large meshes, and it resides in the centre. The snares are spread for large flies, wasps, drones, and even locusts: the lesser insects can escape through the meshes. The animal which it entangles, is soon bound with strong threads, killed by the spider's jaws, and partly eat, if the spider is hungry; the rest is con-

concealed under some neighbouring dry leaves, covered with a kind of web, and a blackish glue in great abundance. Its larder is said to be often plentifully stored: among these provisions our author found the beautiful sphex maxilloso, formerly described.

Its nest is of the size of a pigeon's egg, divided horizontally, and suspended by the threads of the insect, which are of a silvery white, and stronger than silk. The young ones live in amity, but when grown up are mortal enemies. They never meet but they fight with violence, and their battle only ends with the death of the weakest. The dead body is carefully stored in the larder. Twelve of these spiders were shut up together, and, after a battle of eight days, the strongest only remained alive. In the same thickets, our author met with another spider of a similar kind, whose manners and ferociousness were the same. It resembled velvet, and its colours were black and brown, agreeably shaded. It does not lay its eggs like the former, but deposits them on some solid body, fastens them with a glue, and covers them with threads spun, seemingly without order, and so distant from each other, that the disposition of the eggs may be easily seen. The eggs are left to chance, and the parent-insect gives itself little trouble about them.

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*Histoire de l'Académie Royale des Sciences, pour l'Année 1783, avec les Mémoires de Mathématique et de Physique, pour la même Année. 4to. Paris, 1786.*

**A**FTER a successful progress for near ninety years, the Royal Academy of Sciences have changed the plan of their publication. Their history, which was an abstract of their memoirs, and an useful abridgement, lately executed by the marquis de Condorcet, is now omitted; and, in its place, we find the observations communicated to the society, and the reports of its commissioners, on particular subjects. The history, they observe, is omitted, because it has answered its purpose; and, if its design was merely to make the language and the subjects of science more familiar, or to give a concise view of the objects of the philosopher, to those who required nothing farther, their remark is just. But it has answered many other purposes; and the general regret with which philosophers received the first account of the change, is a more convincing proof of their opinion, than any thing that we can urge. We accept, however, with great pleasure, the observations of the Royal Academy in any form; but we shall change our plan also, and review this volume in the order in which the memoirs are arranged in it.

The first report is on the aerostatic machine of M. Montgolfier, by Messrs. Le Roi, Tillet, Briffon, Cadet, Lavoisier, Bossut, de Condorcet, and Demarest. It contains a concise and well-written history of the invention, but offers nothing new.

An



An individual, who wished to remain unknown, requested that the Academy would propose prizes for the memoir, which would point out, in the most satisfactory manner, the means of preserving the healths of the men employed in unwholesome operations. He offered, for this purpose, the interest of 12,000 livres, (500l. sterling); and the first premium has been bestowed on the best dissertation on the following subject: To determine the nature and the causes of the diseases to which gilders are exposed, and to point out the best methods of preserving their healths, either by physical or mechanical means. The author is M. Henry Albert Goffe, of Geneva. He has, however, chiefly confined his observations to those who work on small pieces, particularly on watches. The Academy wish that he would extend his remarks; and think, that by enlarging his *preserving furnace*, it might be used by those who work on a larger scale.

The elogés are those of Dr. Hunter, M. Euler, M. Bezout, an eminent mathematician, M. d'Alembert, the Comte de Tressan, author of the military articles in the Encyclopædia, and, of some, rather indecent, romances, and of M. Wargentin, an eminent mathematician and astronomer at Stockholm.

The first memoir, in this volume, is on the obliquity of the ecliptic, and on its diminution, by M. le Gentil. The true obliquity he supposes to be  $23^{\circ} 28' 6''.9$ ; and the diminution to be  $37''$  in every hundred years. Some observations, on particular fixed stars, are added at the end, with some remarks on the observations of M. de la Caille, made with the same instrument which M. le Gentil employed.

Two memoirs on the solstitial heights of the sun, in June 1782 and 3, next follow; but they are incapable of abridgment.

We have more than once, in our Foreign Literary Intelligence, mentioned M. de la Place's memoir on the figure of the earth: it is inserted in this volume, next to M. le Gentil's dissertations, and we greatly regret that it is not in our power to give so particular an account of it as its real merit would require, not only from its length, but of its numerous algebraical calculations. The great object of this paper is to ascertain, as exactly as possible, the figure of the earth, and somewhat relating to its constitution. The figure of the earth is of great importance in many questions of natural philosophy and astronomy, since, in theory, this planet is considered as a point, placed in its centre, and, to apply theory to practice, it is necessary to ascertain the length of the radii from this point to the circumference. The variation of its parallaxes, which depend on its figure, are too minute to be observed with respect to the sun and the planets; but, if the flattening at the poles is equal to  $\frac{1}{178}$ , as has been supposed, it would amount to  $20''$  with respect to the moon. The effect of the figure of the earth on the calculation of the principal phænomena which depend on it, as the variation of gravity, from the equator to the poles; the parallaxes; eclipses; precession

precession of equinoxes; and nutation of the earth's axis, is examined by M. de la Place, from what theory or observation has furnished.

The proportion of the polar to the equatorial axis is supposed to be as 249 to 250, very-nearly, by a new kind of calculation from the different measures of a degree in different latitudes; but M. de la Place thinks it probable, from these premises, that the earth is not a regular ellipsis, that it is not a solid of revolution, and that the southern pole is flatter than the northern. If this is the case, it will in some degree account for the greater cold of the antarctic regions, above that which is observed in the arctic in the same latitudes; yet, from the consideration of the equilibrium of the earth, from the length of the pendulums in different places, our author thinks it more certain, that the earth is really an ellipsoid of revolution; the proportion of whose axes are as 320 to 321; and that the different phenomena, just mentioned, coincide very nearly with this supposition: It is already known that the density of the earth increases from the circumference to the centre, though the law which it follows will probably never be discovered, till another more fortunate Maupertuis shall actually practise what the other proposed, and endeavour to dig to its centre.

The observations made by M. le Monnier, in June 1782, at the summer solstice, on the gnomon and object-glass of Saint Sulpice, will be unintelligible without a tedious description of the instruments and situation; and it will, at last, be uninteresting.

The next memoir, by the marquis de Chabert, on the use of marine time-pieces with respect to navigation, and particularly to geography, is a very important one. Its object is to determine the difference in longitude between some points of the Antilles and coasts of North America, and Fort-Royal in Martinico; or between the same places and Cape Francois in St. Domingo, by observations, made during the cruises of Comte d'Estaing in 1778 and 1779, and Comte de Grasse, in 1781 and 1782. M. de Chabert was captain of the *Vaillant* in the first period, and of the *St. Esprit* in the second. He laudably employed the intervals of war in the pursuits of astronomy. The longitudes, he observes, with the time-pieces, are calculated very nearly, and he expatiates on the advantages to be derived from them. With their assistance, he asserts, that he could calculate the direction and the velocity of the different currents through which they passed. The numerous longitudes, ascertained in this memoir, we cannot enumerate, as they would exceed our limits. The marquis recommends spring-clocks, as those moved with weights are too cumbersome, and easily put out of order, by the shock of an engagement. The English time-pieces are usually of the size of a large watch, and they go with great accuracy.

M. Sabatier was the author of a memoir on the brain and its mem-



membranes, published in the seventh volume of the memoirs of the Savans Etrangeres. He pursues the subject, and, in this volume, his dissertation on some peculiarities in the structure of the spinal marrow, and its coverings, is inserted. This accurate anatomical detail we cannot abridge, but may remark, that he denies any transverse medullary fibres, or nervous communication between the different sides of the spinal marrow. — He mentions the grey cortical appearance in different parts of the marrow, which we have usually considered as a source of nervous energy, and denies that there is any vacuity, any lengthened ventricle, from the calamus scriptorius of the brain through the substance of the medulla spinalis. In the ganglion, formed by the vertebral nerves, the cortical substance appears; but M. Sabatier denies that the nervous fibrils from each cord are mixed in the ganglion: their appearance changes, but they may be traced distinct.

M. Monge has produced water from burning inflammable and dephlogisticated airs together, by means of the electrical spark, in greater quantities than Mr. Cavendish or M. Lavoisier. As his experiments were made without knowing those of the former chemists, they are entitled to particular attention. By repeated explosions he produced three ounces three drachms and above forty-five grains of water, slightly acidulated. The acid was seemingly the vitriolic, and proceeded, in M. Monge's opinion, from an accidental impregnation from the oil of vitriol, of which the inflammable air was formed; and the water had an empyreumatic taste. The remaining airs were dephlogisticated, inflammable, and fixed. The last seemingly prevented the explosion of the former, and our author attributes it to the impurity of the air in the vessels: perhaps it might be formed by the explosion. We think that, in many respects, M. Monge's experiments confirm the theory of the composition of water.

The next memoir is by M. de la Lande, on the eclipse of the moon on the 18th of March, 1783, which, as it was nearly central at Paris, the time favourable, and observations made by several different astronomers in that city, the author thinks is well adapted for ascertaining the true size of the shadow of the earth, and the proper allowance to be made for its atmosphere. The semi-duration of the total eclipse was  $51^{\circ} 4''$ , and the necessary allowance for the atmosphere  $36''$ .

The following memoir is also by M. de la Lande, on the change of inclination which must take place in the orbits of the planets, in consequence of the reciprocal attractions, and the alterations in the planetary orbits. Mars suffers the greatest change, as its inclination diminishes nearly  $29'' \frac{1}{2}$  in every hundred years. The particular table we cannot transcribe.

In the extract of observations, which determine the geographical position of the city and mouth of the river of St. Domingo, the latitude appears to be  $18^{\circ} 28' 30''$ , and the longitude  $72^{\circ} 30'$  west, instead of  $73^{\circ} 45'$ , as in the best maps.

M. Forgeroux de Bondaroy makes a singular, and probably an useful observation, on the horned rye. Two grains, by accident, fell near a heap of pigeon's dung, in a dry ground. Each produced from seventy to eighty ears; but, of that plant next the dung the ears had about one-fourth of their grains horned. The author only concludes, that this disease does not proceed from moisture: he suspects, with Geoffroy, that it may arise from some disease in the parts of fructification of the plant.

Observations on two total eclipses of the moon, on March 18, 1783, and in the night of the 10th and 11th of September, of the same year, by M. Messier, follow; but we cannot engage in the very accurate and particular detail of this able observer, without transcribing his own words.

M. Messier has also communicated observations on the comet of 1783, the twenty-first that he has observed, from the observatory of the marine, and the sixty-eighth whose orbit has been calculated.

The abbé Teflier has communicated some experiments, whose object is to shew the effect of light on certain plants; but he has added little to what was before known. We shall select a few of his most interesting conclusions. Plants lean towards the light most in their early state; when at a great distance from it; when placed against dark colours; and when the seed is sown in such a situation that the young plant can rise most easily. They will incline towards the light of a lamp; and, in a place perfectly dark, the shoots do not rise, but mix indiscriminately with the roots. He enquires, too, whether the different modifications of light had the same effect on plants, in the operation of blanching, as the direct light. Reflected light had a similar effect, but in a less degree than the direct; and, by multiplying the reflections, the power was proportionally weakened. The light of a lamp has less effect than even the reflected light of the day, and the reflected light of the lamp is proportionally weaker: even the light of the moon seems to have some effect. — A plant need not be far from the light to lose its colour: it is sufficient if the light does not fall upon it. The effects of coloured light are not yet accurately ascertained.

The parliament of Paris requested the advice of the Academy about the assize of bread, on account of a dispute at Rochefort relating to a tax on bread. The commissioners, named by the Academy for this purpose, were Mess. le Roy, Tillet, and Demarest; and their report follows the abbé Teflier's memoir. The numerous and accurate experiments which fill this very extensive and useful essay, make it almost impossible to give any proper account of it, while the different customs, methods of preparing the bread, and the variety of measures, would make even the best account unintelligible and uninteresting. The report contains above one hundred quarto pages; the experiments are numerous and well digested; the reasoning close, pointed, and convincing.

M. Dionis



M. D'onis du Sejour next explains his new analytical method<sup>s</sup> for resolving astronomical questions. This is the eighteenth memoir on the same subject; and the design of this essay is to apply the former general methods to the observations on Mars, made in 1751, in order to obtain the mean parallax of the sun, and to verify the conclusions, drawn by the same means, from the observations on the passage of Venus over the sun: these were the subject of the sixteenth memoir. The parallax, from these observations, is  $9''.473$ ; that deduced from the observations on Venus was  $8.813$ . The difference  $0.660$ . Our author prefers the latter, and thinks its accuracy to be chiefly depended on; and in this the best astronomers in Europe join with him.

The abbé de Gua then adds a treatise on spherical trigonometry, which he professes to deduce, very briefly and completely, from the algebraical solution of the most simple of its problems, by means of the different transformations, of which the respective proportions of the sines, &c. of the same arc or plane angle render the solution susceptible. It contains, too, some formulæ and remarks, which he supposes to be new and useful.

The only problem required, is, the two sides and the containing angle of any spherical triangle being given, to find the third side. There is much neatness and accuracy in our author's method, but we do not see that it is superior to Simpson's, with which our mathematical readers must be well acquainted.—The corollaries are thirteen in number, and diverge so much from the original proposition, that every advantage from the connection seems to be lost.—We must resume this volume in a future Number.

## MONTHLY CATALOGUE.

## D I V I N I T Y.

*The Analogy between the Light of Inspiration and the Light of Learning, as Qualifications for the Ministry: a Sermon preached in the Cathedral Church of Gloucester, at a public Ordination of Priests and Deacons, on Sunday, September 9, 1787. By the Rev. Samuel Horsley, LL.D. F.R.S. 4to. 1s. Robson and Clarke.*

**T**HIS is in many respects an elegant and learned discourse, from 1 Cor. ii. 2. "For I determined not to know any thing among you, save Jesus Christ and him crucified." Dr. Horsley endeavours to show, that when the apostles seem to depreciate human learning, they refer to the subtle eloquence of many pretenders to the Gospel, whose refinements had deprived it of its essence and energy. The learning requisite for a preacher was, in the apostles, the gift of tongues, the inspiration of the Holy Ghost: in modern divines, this gift must be supplied by study and attention; and the deductions of modern enthusiasts, who depend only on their zeal and their fervour, are not less founded on the real meaning of the texts than on reason and common sense.—The Gifts and the Offices, in this Epistle of St.

Paul, Dr. Horsley thinks, answer to each other in their respective orders; but these sentiments are not peculiar to our author. His opinion, that the Offices show that a Hierarchy and an extensive establishment had taken place in the Christian church, when little more than half a century had elapsed from the death of Christ, is more original, but more uncertain. On the whole, this sermon has much merit; but we fear that it may occasion altercation.

*An Essay on the Depravity of the Nation, with a View to the Promotion of Sunday Schools, &c. of which a more extended Plan is proposed. By the Rev. Joseph Berington. 1s. 8vo. Robinsons.*

This is a more finished Essay than we could have expected from the title; yet it is more conspicuous from the neat and rounded periods of the language, than from the novelty of the author's opinions. The effects of vicious indulgence on the individual, he transfers to society; and shows, that the checks which have hitherto been applied to prevent the spreading of these injurious deviations are insufficient. After many remarks, whose application to the subject is remote, and not always clear, some of which we think not well founded, he considers Sunday schools as the principal and best remedy for the evil. His plan for extending their utility, is to connect them only with the general principles of religion, not with the tenets of a sect; and to put into the hands of the children, elementary books of general morality, and undisputed theology. The usual catechisms, he observes, with great justice, are in general too abstruse for the age at which they are taught.

We have more than once observed, that though plans of this kind are apparently liberal and judicious, they would probably end in the subversion of all religion. We would not abolish the divisions of sects, but moderate their vehemence, and reconcile them to each other, that they might converse as brethren and friends. Mr. Berington need not be afraid, at present, of intolerance.

*A plain Account of the Ordinance of Baptism; by William Foot. The third Edition, with the Author's last Corrections and Improvements, by Joshua Toulmin, A. M. small 8vo. 1s. 6d. Johnson.*

This little tract is highly commendable for the candour and good sense displayed in it. We have seldom seen a controversial subject managed with so little asperity. Yet we cannot agree in the author's conclusions: his principles, and the interpretation of the texts have often, and may be with justice combated; so that it is not surprising that we should diverge greatly from each other at last. The character of this work is now established; and, if this had not been a third edition, a controversy of this kind would be unsuitable to our situation.

*Jesus Christ the true God, and only Object of supreme Adoration. By J. Hodson, M. D. 2 Vols. Small 8vo. 5s. sewed. Deighton.*

Dr. Hodson's Preface is florid and abrupt; but the work is written



written in a more gentle strain, and is, in many respects, perspicuous, and sometimes forcible. A great part of it consists in quotations from different parts of the Bible, and in a comparison of various passages from the Old and New Testament. In the first essay, he endeavours to prove the divinity of Jesus Christ; in the next, his humanity; of course, in the third, he is shown to be both God and man. In the second volume, different objections, which have been made to the divinity of Christ, are attempted to be answered, with very different success. The objections are, that Jesus Christ, in the Gospel, hath not avowed himself to be God; that he has not only never required prayer to be addressed to him, but has absolutely forbidden it; and that this trinity of person, or nature, is not only unnecessary, but inconsistent. These objections are frequently answered very imperfectly, and we greatly prefer the first volume to the second.

We are not so certain of the force of Dr. Hodson's vindication of his stepping out of the way of his profession, as he seems to be: *tractent fabrilis fabri*, is an adage, whose good sense strongly recommends it, and its general acceptance proves its truth. In these volumes there is some acuteness, a large collection of apposite passages from the scripture; but so little novelty either in the selection, or the application, that while on the one hand we are unable to select any adequate specimens, on the other we cannot recommend this work, in any other way than as a new form of old arguments; as a repetition without any considerable improvement.

*Pædobaptism examined, on the Principles, Concessions, and Reasonings of the most learned Pædobaptists; second Edition. 2 Vols. Dilly.*

The first edition of this work was examined in our 57th Volume, page 463; and it is since greatly enlarged, by many valuable additions. As we gave then a specimen of Mr. Booth's method of arguing, and as we have, in our 53d Volume, given our opinion on the subject, it is sufficient to have mentioned this new and enlarged edition of an excellent and well conducted defence.

*Ecclesiastes, in Three Parts. A new Translation with a Paraphrase. To which is added, A new Translation of other Passages of Scripture; with Notes and Reflections on the present Fashion of correcting the Hebrew Text by Conjecture. 8vo. 5s. sewed. Lowndes.*

If our author contends on the one hand, that the text of the sacred scriptures are very little, if at all corrupted; and the modern critics, that much should be amended, and much restored, before the sense of the Hebrew authors be ascertained with precision, it will be at once obvious, that the dispute can only be decided by recurring to MSS. of different æras, and comparing the value of the different readings. This comparison is now before us, and we think that, from this evidence, Mr.

Greenaway's opinion appears not well established. Yet we agree with him when he contends, that not only in sacred, but profane authors, a careful attention would often supersede the enquiry after a various reading.

This work contains a translation, with a commentary on Ecclesiastics, published at different times, and in no regular order,—with some remarks on other parts of the Old Testament. Of his translation, and of his Preface, we can select no specimen, because no passage will give an adequate view of the work. The author is sometimes whimsical and erroneous in his interpretations, and sometimes judicious and correct; but, in every instance, he is serious and religious: he is generally also calm and candid, except when the texts have been much tortured to render them intelligible, and consistent with the context. In his remarks on profane authors, in the Preface, he occasionally employs the utmost licence of conjectural emendation, while he warmly opposes this method of drawing the sense from obscurity: in one or two instances, he has shown some dexterity, in explaining without any of the expedients of Procrustes. His observations are occasionally too far extended; and we are led to think of the old age of Nestor, when the friends and the companions of his younger days occur to his recollection. But though we mention it as critics, as men we sincerely pardon it, and attentively listen with the respect due to grey hairs, uncontaminated with vice.

#### M E D I C A L.

*Bath Waters, a conjectural Idea of their Nature and Qualities, in three Letters. By A. W. M. D. 8vo. 2s. Robinsons.*

Dr. Wilson either wrote his Letters about the year 1776, or from that time he had neglected chemical enquiries, and lost all remembrance of the intervening period. But this too is a conjectural idea; now a conjectural idea consists of 'inferences drawn from, and a judgment formed upon collated circumstances;' at least our author tells us so, though on less authority we should not have believed it. The inference just hinted at, we draw from the 'collated circumstances' of our author's ignorance of every newly discovered fact: and, in his own words, where he tells us what Mess. Baumé and Meyer are now '*penetrating into*.' But what they are *penetrating into* is what they guessed at in 1776, and of which our author's knowledge is derived from Macquer's Dictionary, published in 1778, though translated some little time afterwards.

Having given *our* conjectural idea, we must proceed to Dr. Wilson's; and here we own that we are somewhat at a loss. The matters discovered by evaporation do not assist him; and, as to his opinion of the aerial impregnation, we cannot trust to an analysis; we must take his own words:

2. As to the second point, namely, the unanalysable ingredients with which the water is impregnated. There is no manner



manner of doubt but that the Bath waters, along with their heat, acquire a specific, definable impregnation, though too subtle to be caught, to which I have no hesitation in ascribing their most eminent and powerful qualities.

‘Inflamable gas is perfectly generated in the resolution of pyritous substances, which is always attended with fermentative heat. Though it is of the nature of an highly inflammable oil, yet, in the form of vapour, it freely mixes with water; as perhaps any inflamable substance would do in the same divided state. It appears to me that Bath waters are no further either sulphurous or calybeate than they are impregnated by that pyritical ferment which supports their heat: I think I am justified, therefore, in concluding that they derive their heat and their characteristic qualities from the same immediate cause.’

Again,

‘Acid gas, commonly called fixed air, has by no means escaped the attention of medical people: which they may find as plentifully in brisk cyder, or spruce beer, as in a saline draught in the act of effervescence; but, inflamable gas has not only escaped their attention, but whenever, without their intention, or permission, it has insinuated itself into their compositions, they have taken particular care to avoid it: as, in the washing of sal polychrest, and the almost total disuse of the balsam of sulphur; while the disgusting ingredient was in fact the most active and important one in the compositions.

‘This inflamable gas, called also hepatic air, which I shall call the progeny of sulphur, because, I do not think it can properly be accounted the inflamable part of it only; but rather an inversion of its substance or corporeal particles into a volatile and more perfectly inflamable modification. I have lately seen an account of some experiments tending to confirm this idea of the matter.

‘This inflamable vapour I consider as one of the most active, to be at the same time, to the sense, mild principles that can be employed in medicine: even sulphur in the form of flowers, which is not in quite so bad repute as this progeny of it is amongst physical folk, never exerts its efficacy in the animal constitution, but in so far as it is subtilised into this volatile inflamable state; a state which the inflammation of sulphur in the open air cannot reduce any of its parts to, as is manifest from both the singular pungency of its smell, and the colour of its flame when burning.’

The mention of hepatic air may seem to oppose *our* ‘conjectural idea;’ but a very little attention to Dr. Wilson’s account will confirm it, and lead us to suppose, that he is only relating his dreams in the interval of his forgetfulness, when he was probably asleep.

The second essay is intended to show that no putrefaction takes place in fevers, except in the last moments; and that there is no infection. This is a very comfortable opinion, and we

with that there was something more solid to support it than mere assertion. The author rails at the doctrine of spasm; yet he speaks of the stoppage of circulation in the extremities, the vacillatory tremor of the extreme vessels, and the exertions to overcome this tremor, and restore the circulation. This doctrine is, in other words, that of spasm and reaction. There are, however, some useful remarks in this essay; and some which seem to show that Dr. Wilson is not unacquainted with practice. But we object strongly to scalding the patient with hot water by way of a stimulus.

*An Essay on the Treatment of Consumptions, by Richard Charles, 8vo. 1s. Herdsfield.*

Mr. Charles supposes, that consumptions arise from too great visciduity of the blood; and that fluids, in this viscid state, are absorbed, and stagnated in the glands. To this theory there is but one objection, viz. that in such cases the blood is not preternaturally viscid; the buffy coat arising from the tenuity, which suffers the red particles to fall down before the crassamentum concretes; this tenuity is, however, only apparent, from the increased action of the vessels. In the latter stages, particularly, the blood is in reality too thin. The medicine which our author employs, must be examined by experience; for it may be of service, though the theory is erroneous.

R Liguaminis salis diuretici — Suponis Mollis  $\overline{\text{aa}}$  unc. unam  
essentiae limonum drach. unam. M.

By liquamen, we suppose that our author means the diuretic salt, in a deliquescent state. Of this liniment a tea spoonful or two are to be rubbed in, on the breast or abdomen, morning and evening. No other medicine is recommended; but, for the general management, the reader is referred to Dr. Fothergill, Dr. Reid, &c.—and a copious extract follows from Dr. Buchan. We heartily wish success to our author's plan; but we own that we have very little confidence in it. Will a drachm of diuretic salt, as much soap, and seven drops of essence of lemons, rubbed on the skin, lessen general irritability? We wish that it would!

## P O L I T I C A L.

*The Speeches of Mr. Wilkes in the House of Commons. 8vo, 6s. in Boards. No Publisher's Name.*

The *Last Words* of Mr. Baxter sold so well, that the world was soon entertained with *More Last Words*. We hope that the sale of these Speeches will produce the same effect; and that if infirmities should prevent Mr. Wilkes from going to the house, we may at least receive *intended* speeches.—The author will forgive our insinuation, for the sake of the comparison; but, in more than one instance, we looked on some of these as, in a great measure, intended Speeches; we mean, in the same manner as Cicero's in favour of Milo, the effect of which, in speaking, was much inferior to its impression when read. We mean not to accuse

Mr.



Mr. Wilkes of the timidity of Cicero; but, as we never suspected him of writing previously what he should speak, it is not improbable that he may have sometimes written afterwards, what he *might* have said. Or, perhaps, he publishes his Speeches for the reason which he assigned when he persuaded Lord G. G. to adopt a similar conduct.

‘ Upon all occasions, in every station of life, and at the risk of what I hold most important, personal freedom, I will continue the strenuous defender of the liberty of the press, the bulwark of all our liberties. I beg pardon, Mr. Speaker, for this digression. I was going to remark, that his lordship’s justification would have come more full and satisfactory by the publication of the genuine speech than by a complaint to this house of *misrepresentation*, or a prosecution in a court of law. We have often been charmed within these walls with the manly sentiments, the honest effusions of the heart, which characterise my noble friend’s speeches. I therefore venture to supplicate his lordship to gratify the impatience of the public at large, as well as of his own constituents, and the numerous and zealous synods and presbyteries of Scotland, with the permission of reading what you, sir, and the House heard with so much pleasure. This will not only confute the wicked *libellers* of his lordship (for *Matthews* is not the only one, they are *legion*), but remain a weighty obligation on the present age and posterity. It will furnish a clear demonstration that in these times, and in this house, we possess one noble senator from the North, who has told ministers the boldest and most unwelcome truths, without the smallest amendment hitherto in a single member of administration.’

We have selected this passage as a specimen of our author’s shrewd, sarcastic manner. At this time it is only necessary to say, that the Speeches before us contain those inserted in the two first volumes of 1777, and the additional one of 1778. These three volumes make about two-thirds of that now before us; though every little scrap which can illustrate the Speeches, or add to the volume, is subjoined.

The subjects of our author’s oratory are well known to be many of the popular (sometimes called patriotic) questions which have occurred in parliament. They are proofs of a good understanding, and a readiness in adapting, in proper language, whatever his reading may have furnished to the question before the house; added to the sarcastic manner already noticed.

*Speech of Mr. Wilkes on the Impeachment of Mr. Hastings.* 8vo. 1s. Robinsons.

Mr. Wilkes defends the late governor-general of Bengal, upon the principle of his successful administration in the East, enforced by the thankful acknowledgments which he had repeatedly received from the court of directors. The Speech is conceived in the animated language of its author; and breathes a spirit of generosity untainted with political prejudices.

*A Lett.*

*A Letter to James Tobin, Esq. late Member of his Majesty's Council in the Island of Nevis, from James Ramsay, A. M.* 6d. Phillips.

In Volume lxiv. p. 78. we examined Mr. Tobin's letter; and observed, that the controversy was degenerating into personal invective. It has now reached almost to its acme: of course there is an end of argument, a period put to information; and it would be no less difficult than unpleasing, to engage in an examination of this Letter.

## N O V E L S.

*The School for Fathers; or, the Victim of a Curse. Containing Authentic Memoirs and Anecdotes, with Historical Facts.* Three Volumes. 12mo. 9s. Robinsons.

It is perhaps, as the editor observes, of no great consequence, whether a novel be really authentic: it is read with avidity, and while it gives a faithful picture of real life, the authenticity of its materials are of little comparative importance. The letters, however, of which these volumes in a great degree consist, we believe to be genuine. They are simply elegant and neat, without adventitious ornaments. Alfred feels for Elwina the warmest affection, while he assumes only the name of her friend; but a disguise so repugnant to his natural feelings, and even to nature, is awkwardly put on, and worn with uneasiness. Elwina meets him with a similar flame; and if the whole of the letters appear, this friendship seems to rise more suddenly than is common; they become at once too warm for friends, and not sufficiently explicit for lovers. This conduct, though apparently faulty, is not inconsistent with nature. Those who, for different reasons, dare not talk of love, will employ the language which is allowed, but are seemingly inconsistent, as it is dictated by a passion different from that which they have assumed. Alfred and Elwina are separated by family-ambition, assisted a little by their own. He is sent to Minorca, killed during the siege; and she dies soon after hearing the news; it was communicated too abruptly, from motives which, for the credit of human nature, we hope are misrepresented.

If the letters, as we believe, are genuine, the heart of Alfred was well regulated, and his mind well stored with information of different kinds. He was minutely attentive, tender, and affectionate. Elwina was his counterpart, and the little elegant attentions are seemingly directed by a mind of exquisite sensibility. 'Our Maria' must forgive us, if we do not pay an equal compliment to the language of the introductory part: it is in some places incorrect, and in many embarrassed. The title too is exceptionable. Can Harley's misfortunes arise from the imprecations of his grandfather on a son, who at least, in the instance which drew them on his devoted head, was not blameable? Can his son be the victim of that groundless curse? Every sentiment of reason and religion revolts at a suggestion so improper



proper and so improbable ; we think these volumes would have lost no part of their value, if it had been entirely expunged. The American Adventures, though interesting, do not seem to be equally genuine. The story of Logan is a little improbable. On the whole, we have been highly pleased with these letters, and perhaps should have received a greater and a more unalloyed gratification from them without the narratives. The Sprig of Myrtle, and some similar traits are exquisite, though similar circumstances occur in the 'Correspondents'.

*Ela, or the Delusions of the Heart ; a Tale founded on Facts.*  
12mo. 2s. 6d. Robinsons.

This little Tale is truly simple and pathetic ; and while its distress for a time pains, its moral mends the heart. The conduct of the story renders it interesting, and differs from the frequent narratives which, in this season of the year, the press sends forth in abundance ; and it is the conduct and the reflections on the different incidents, rather than the novelty of the story, that distinguish the Delusions of Ela. There is some improbability in the catastrophe ; nor did the nightingale entertain, or the wood-pigeon soothe us, who reflected that the scene was in India. These harsh notes occasionally destroyed the harmony and merit of the rest of the work, which deserves no inconsiderable commendation.

*Catherine, or the Wood of Llevellyn ; a descriptive Tale, by the Author of the Village of Martindale. 2 Vols. 12mo. 5s. sewed Lane.*

We never wish to break a butterfly on a wheel, and often praise where the severity of criticism might have checked the tender mercies which well-meant endeavours have drawn from our tribunal. If, however, we own that we may have been sometimes too merciful, the fault of those who extract every particle of blame, and again publish mutilated characters, mutilated at the expence of common sense, grammar, and justice, cannot fail of exciting the warmest indignation. The editor will soon recollect what has suggested these remarks ; and he will remember that nothing draws down the vengeance of justice with greater certainty than the abuse of clemency.

These volumes contain a simple and pathetic Tale.—Pure description sometimes holds the place of sense ; and, instead of new characters, we meet with situations somewhat uncommon, and occasionally improbable. The union of the Old Batchelor, and the Old Maid, if not entirely new, is at least a novelty in histories of this kind.—On the whole, however, the unity of the plan, the artificial concealment of the event, with the neatness of the language, render this novel more estimable than the 'every day publications,' designed for the circulating libraries. The parodies are very well executed ; but the frontispiece is so much the reverse, that, like the candle in the noted epigram, it cures the reader of every partiality that he may have felt for the personal charms of the heroine,

*Augusta ;*

*Augusta; or the Dependent Niece, in Letters. 2 Vols. 12mo. 6s. Vernor.*

One of those productions which neither excite admiration nor contempt. There is not an atom in these volumes which some former novellist might not claim.

### M I S C E L L A N E O U S.

*A free Translation of the Preface to Bellendenus; containing animated Strictures on the great Political Characters of the present Time. 8vo. 2s. 6d. Payne and Son.*

While one friend of the late editor of Bellendenus informs the world of the subject of the work, another has rendered the political Preface, which introduces it, more accessible to common readers. There is an originality in the language of this translation; but, while by this means the value is augmented, we are led to suspect that the translator enjoyed peculiar advantages, which greatly contribute to the excellence of his work. There is a neatness in rendering *some* difficult and complicated passages, which could not easily be attained but by one who possessed the idea as well as the words. Indeed, the errors which we have observed are not those where the sense seems to be mistaken, or where the idiom is the Latin one; but in a few colloquial phrases, that sometimes seem to injure the elegance of the whole. In short, this translation can only be styled 'free' in opposition to one where

— Verbum verbo curabit reddere fidus

Interpres.

But political discussions are the phrenzies of the moment: the time may soon arrive when the editor's elegant Latinity, and his translator's faithful attention, will be involved in oblivion, with the panegyrics and invectives of the day. Why did not the author chuse a subject as durably interesting as his own eloquence?

*The True Alarm! an Essay: shewing the pernicious Influence of Houses of Industry on the political Interests of this Country. 8vo. 1s. Robinsons.*

The author of this pamphlet endeavours to shew the pernicious influence of houses of industry on the political interests of this country. If all that he affirms concerning these receptacles of the poor be well founded (and we believe there is much truth in his assertions), they must prove of real prejudice to the public. Without previous investigation, however, it would doubtless be too precipitate to determine on the abolition of them all, from abuses discovered in a few. But that a minute examination of their œconomy, and their effects, in the different parts of the kingdom, should be commenced as soon as possible, under the authority of the legislature, would be a measure worthy of attention, and is strongly inculcated by the observations contained in the present pamphlet.

*Memoirs*



*Memoirs of Major Edward M'Gauran. In a Series of Letters, written by himself. 2 Vols. 12mo. 6s. sewed. Hookham.*

Major M'Gauran has served in a military capacity in several armies; and has experienced many vicissitudes in life. In these Memoirs he presents us not only with his own adventures, but a description of the countries through which he has passed. He appears to be a gentleman of a volatile disposition, but of good principles. His life has hitherto been devoted to *one* Minerva, and we now wish him much success in his application to the *other*.

*The Conjuror Unmask'd. 2s. 6d. Denton.*

This production, which is translated from the French, contains an explanation of all the surprising performances exhibited in this kingdom and on the continent, by the most eminent professors of slight of hand; with descriptions, observations, and directions for the tricks of the divining rod, automaton chess-player, self-performing organ, speaking figure, artificial serpents, mechanical birds, &c. &c.—a choice and plentiful bill of fare for the gratification of curiosity.

*An Address to the Manufacturers and Traders of Great Britain. 12mo. 6d. Otridge.*

The design of this address is to point out the hurtful consequences of selling commodities under the market-price. The author's principle seems not to be destitute of foundation; but he has thought proper to support it in such a bombastic strain of argument, as is extremely unsuitable to the subject. His plan for remedying the evils complained of, however, merits attention; as does likewise his proposal for the better employment of the poor.

*A Dissertation on the Construction of Locks. By Joseph Bramah. 8vo. 1s. Baldwin.*

This ingenious artist clearly evinces, that the best constructed locks are liable to be secretly opened, either by pick-locks, or false keys, skilfully made. But, to the honour of his own invention, he describes a particular kind of lock, constructed by himself, which affords perfect security against all the machinations of art. As we cannot give our readers an adequate idea of it without plates, we must be contented with informing them, that the peculiarity of this curious piece of mechanism consists in making the wards moveable; and in adapting the Lock to the key, instead of fitting the key to the lock. The perusal of this pamphlet will afford pleasure to those who are conversant in mechanics.

*A Letter to the Treasurer of the Society instituted for the Purpose of effecting the Abolition of the Slave Trade; from the Rev. Robert Boucher Nickolls. Small 8vo. 2d. Phillips.*

This letter is truly humane, sensible, and interesting: it affords a strong argument for abolishing the slave trade, inasmuch as it will procure better treatment to the Negroes, to keep up the stock

stock of native slaves: there is little doubt, if we trust to reason or facts, but that a sufficient supply will arise from their natural increase, a supply equal even to the extended cultivations. This view of the subject, however, will not satisfy those whose affected humanity or real zeal aims at the total abolition of slavery. We own, that we wish either the circumstances, or the political situation of the West India islands, would admit of this salutary reform; but, after maturely weighing every argument, we are convinced, that it is not only inexpedient, but impracticable. To abolish the Guinea trade should be the present chief object; and the next step may not be equally difficult; but the change must be gradual.

*An Essay on Anger; by John Fawcett. 8vo. 1s. 6d. Johnson.*

If, as Horace says, anger is a paroxysm of madness, our author, who endeavours to direct its object and measure, may be justly said to teach men cum ratione insanire—an attempt which has been supposed to be sufficiently absurd. This Essay on Anger has, however, some merit: it is plain and practical; and it may be useful. Criticism has, therefore, no object: the faults of the author are covered by good designs of the moralist; and the critic would be ill employed who searched for faults that would lessen the utility of the author and his work.

*Mrs. Inglefield's Justification, containing the Proceedings in the Ecclesiastical Court, before the right-worshipful Peter Calvert, LL.D. By Mrs. Ann Inglefield. 8vo. 2s. Sewell.*

This pamphlet contains an account of the proceedings of the ecclesiastical court relative to Mrs. Inglefield; who now appeals to the public in vindication of her character, insisting that she is cleared from all injurious aspersions, by the favourable decision of the court.

*Captain Inglefield's Vindication of his Conduct: or, a Reply to a Pamphlet entitled, "Mrs. Inglefield's Justification." 8vo. 1s. 6d. Murray.*

The present pamphlet is a reply to the preceding. The captain, not satisfied with the arguments adduced in Mrs. Inglefield's favour, in the ecclesiastical court, perseveres in maintaining the criminality of which she had been accused, and manifests such an opinion of her conduct as seems utterly incompatible with the idea of reconciliation recommended to the parties by the court.

*An Answer to Captain Inglefield's Vindication of his Conduct, &c. 8vo. 6d. Sewell.*

This unbecoming dispute has been already maintained too long before the tribunal of the public. We rather wish than hope that a reconciliation might take place between captain and Mrs. Inglefield; but it is an event which never can be effected by violent means; and the altercation serves only to render the unfortunate breach more irreparable.

CORRE-



## CORRESPONDENCE.

WE are much obliged to the author of the 'Treatise on Gout and Gravel,' for his candour and complaisance; yet we are still at a distance. He speaks of the difference between the concreting acid and the phosphoric, 'in all the trials to which' the former 'has been put.' He would favour us by mentioning them. It is not proved by the strong and powerful attraction which the calculous acid has for magnesia: it is not proved by the superior affinity which muriatic acid has for the fossil alkali. In both these instances the *similarity* between the two acids is striking. We have made no experiments on the subject; and if we had, we should be cautious of quoting them, as experiments on anonymous authority are not always well received by the world, though we should feel ourselves indebted to the author of the treatise for those decisive ones, on which his opinion is so firmly fixed.

We cannot yet acquit our correspondent of not being indebted to Mr. Berthollet for the hint, because, before the publication of his memoir, he was not aware that the concreting matter was an acid. He now differs from him on the nature of the acid, though without adducing a single experiment in favour of his own opinion: the two experiments just mentioned, which are his own, are decidedly against him, and they are the only ones, in his treatise, which are applicable to this dispute. He must allow us to add, that he has never said that he was not indebted to Berthollet; and till he has explained the foundation of his different opinion respecting the nature of the acid, the suspicion must necessarily remain.

Our correspondent has left off transcribing from the Review, at the very sentence where we mentioned the phosphoric acid as a principle of the animal earth, which we supposed to be one of the ingredients of calculi. We do not wonder then that he saw nothing of the phosphoric acid; but we wonder that he accused us of knowing nothing of it, for very obvious reasons. If fixed air is not a formal as well as a virtual ingredient in calculi, how will our correspondent account for the action of lime-water, and of caustic alkali on it, in Scheele's experiments.

Our correspondent's acquaintance with the chemical nature of the blood is very limited. No fixed air has been demonstrated in it: its neutral salts *have* been separated: no separate acid has ever been found in either the chyle or circulating fluids. Why these things are so, we know not: it is enough that these are facts. 'If,' says our correspondent, 'a little of any acid be mixed with fresh urine; it acquires in a very short time after the precipitation has taken place, the peculiar foetid smell by which the urine of nephritic patients is distinguished.' We have transcribed this additional argument, because the author points it out with some care, and shall add only one short remark: we never found any foetid smell in nephritic urine, except

cept when an abscess has discharged purulent matter into the bladder. Yet we have seen many scores of nephritic patients, and have constantly smelt the urine, because we always supposed that the fœtor was a proof of the presence of pus, and distinguished it from the increased flow of mucus, which commonly attends the presence of any acrid substance in the bladder. Has our author tried the experiment as often? or must we put his knowledge of chemical physiology and practice on the same footing on which we had once occasion to put his chemical acquisitions?

We should apologise to our correspondent, and to our readers, for considering this subject to so great an extent; but we hope that the discussions in which we have been engaged, will promote the progress of science, and extend the knowledge of the nature of this singular acid.

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We are much obliged to 'Another Friend' of the Critical Review, for his offers. We profess to review every reviewable publication; but, in the hurry of collection, some escape us, and we shall gratefully acknowledge any communication of this kind.

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We have received a very long and a very obliging letter from 'Criticus,' who compliments us on the execution of the two articles of M. Volney; but he wishes that we had examined 'the variation in the accounts of this author and M. Savary more accurately, and given our opinion on the disputed points.' To have enlarged on the various observations which the perusal of M. Volney suggested, would, in our own opinion, have entangled us in the mazes of controversy. But it may give some satisfaction to our correspondent, to inform him that M. Michælis, in a foreign Journal, has attacked M. Savary, and shown that much of his erudition is copied from Abulfeda, and actually written after his return.

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We should not probably have engaged in any controversy relating to the Anodyne Ætherial Spirit, if we had been aware that it would have occasioned so many remarks, and that opinions on the subject were so various. Our article has by some of our correspondents been considered as hostile to Mr. Tickell, and by others as too favourable. If we can judge of our own designs, we can truly say, that we gave those sentiments which arose from a very careful and attentive examination of the medicine, and of the diseases for which it was directed. We concealed only what might have been injurious to the inventor, without benefitting the world. If we did not, as Medicus wishes, give the result of our own experience with it, we must candidly own, that we had not then used it in cases sufficiently appropriated, and sufficiently varied, to enable us to give any decided opinion on that subject.

